

THE SUPPLEMENT
TO THE
UNITED STATES NAVAL MEDICAL BULLETIN

PUBLISHED FOR THE INFORMATION OF

THE HOSPITAL CORPS
OF THE NAVY

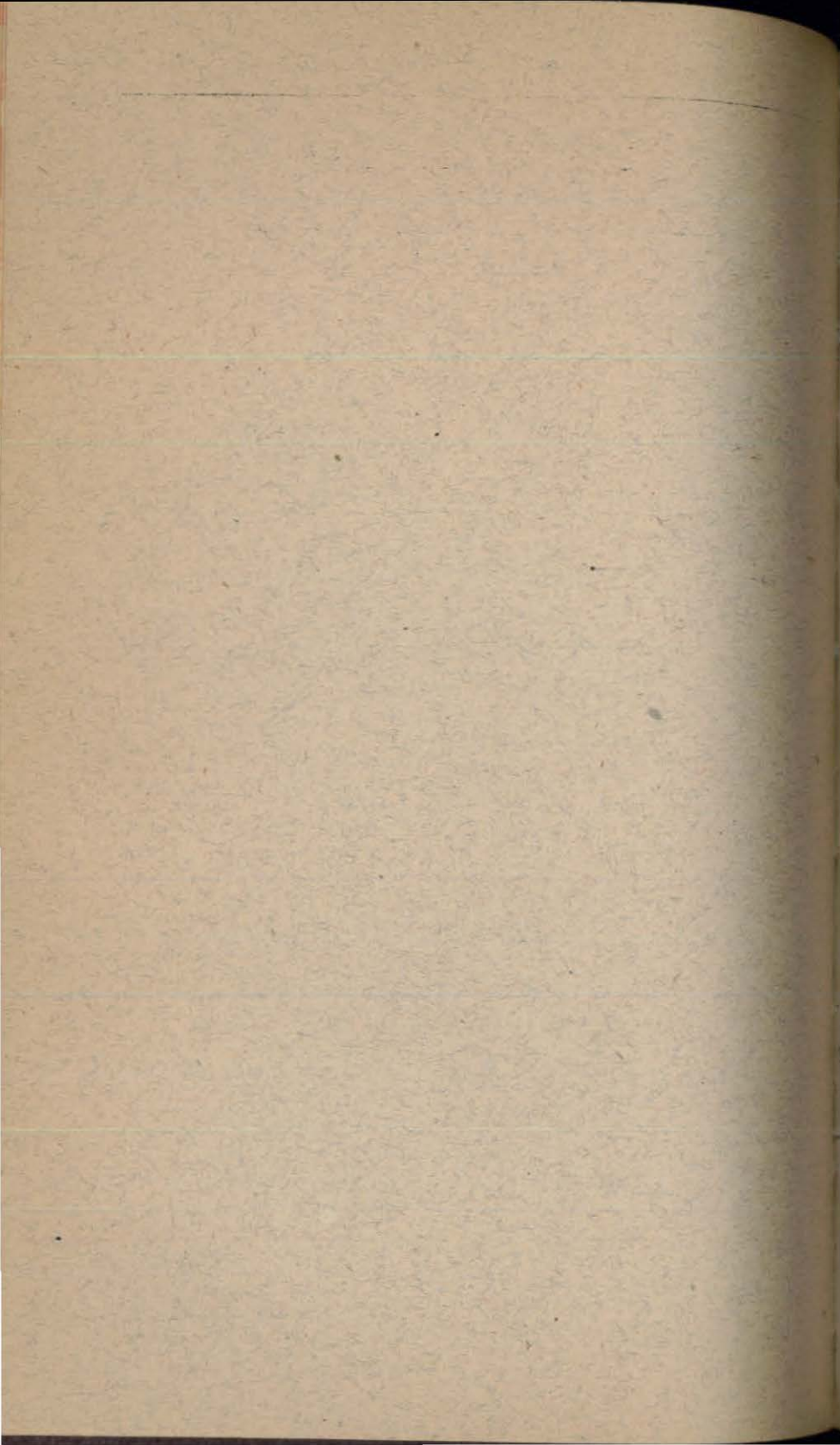
ISSUED BY
THE BUREAU OF MEDICINE AND SURGERY
NAVY DEPARTMENT
DIVISION OF PUBLICATIONS
MEDICAL INSPECTOR J. S. TAYLOR, UNITED STATES NAVY
IN CHARGE

EDITED BY
PASSED ASSISTANT SURGEON G. F. COTTLE
UNITED STATES NAVY

JULY, 1918
(NUMBER 6)



WASHINGTON
GOVERNMENT PRINTING OFFICE
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NAVY DEPARTMENT,
Washington, March 20, 1907.

This United States Naval Medical Bulletin is published by direction of the department for the timely information of the Medical and Hospital Corps of the Navy.

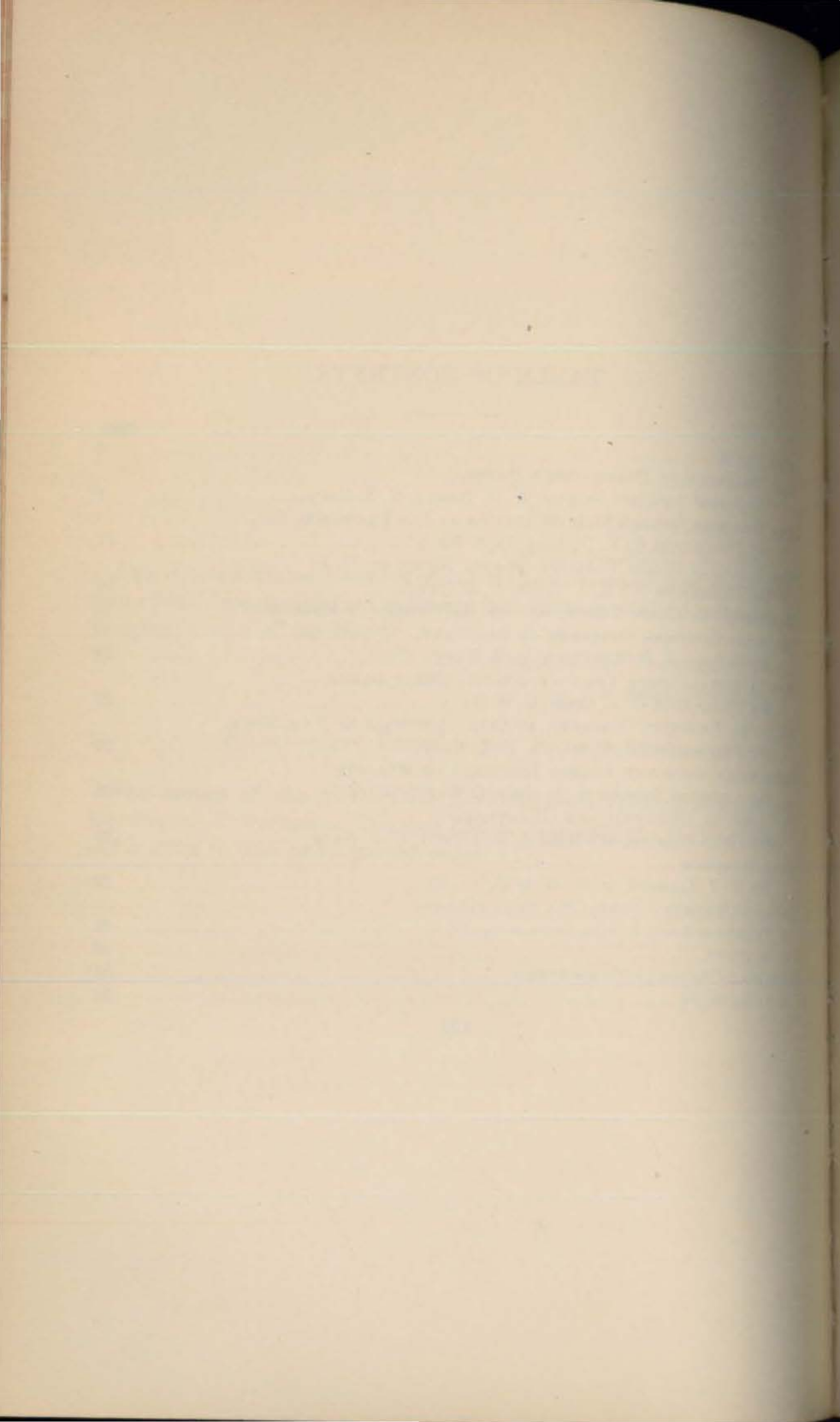
TRUMAN H. NEWBERRY,
Acting Secretary.

SUBSCRIPTION PRICE OF THE SUPPLEMENT.

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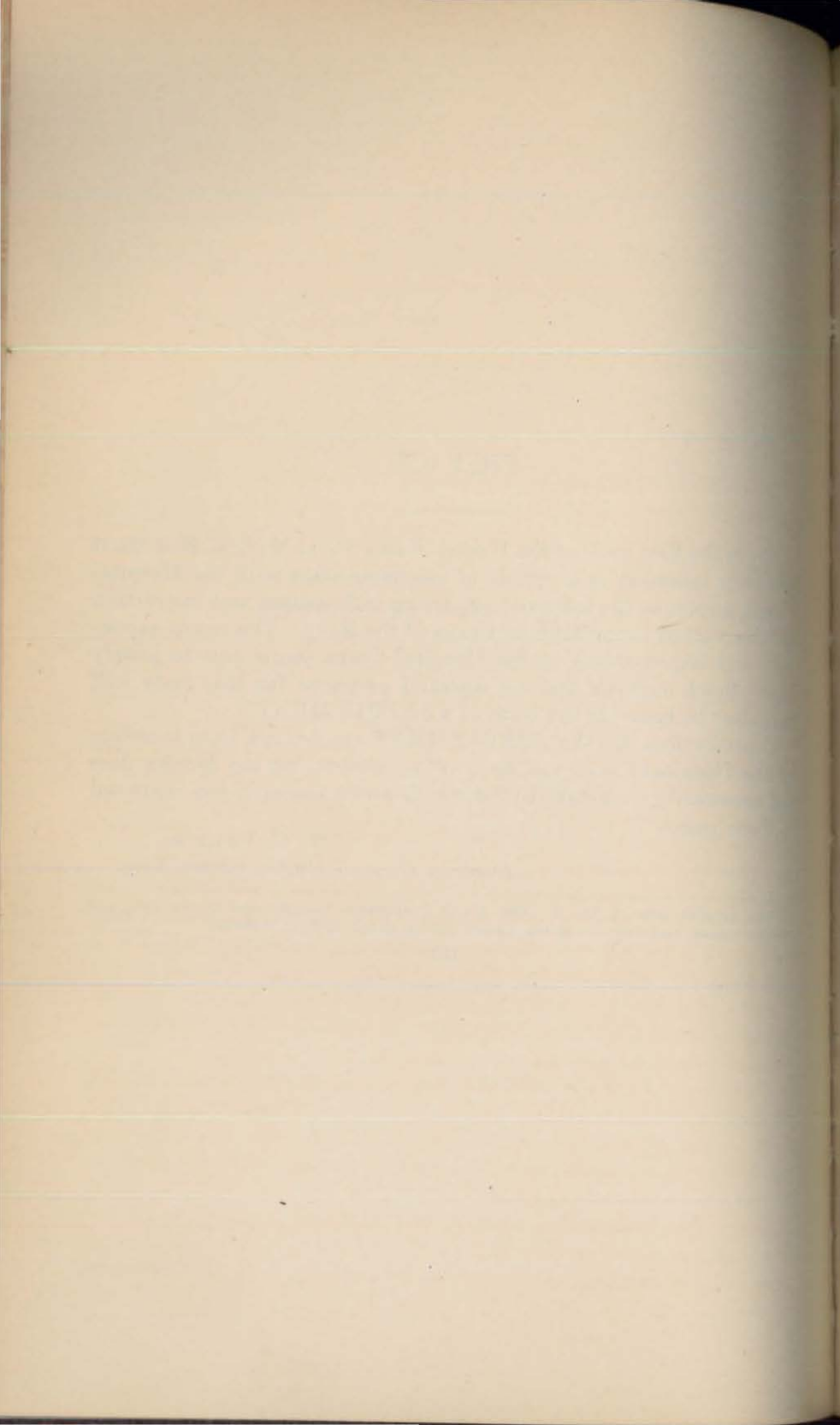
PREFACE.

From the first issue of the United States Naval Medical Bulletin it has been intended as a vehicle of communication with the Hospital Corps, and to be the means of imparting information and instruction to it as well as to the Medical Corps of the Navy. The recent expansion and improvement of the Hospital Corps seems now to justify more direct methods and the material prepared for that body will hereafter be issued in the form of a SUPPLEMENT.¹

Contributions for the SUPPLEMENT are desired from members of the Hospital Corps and from other sources, but the Bureau does not necessarily undertake to indorse all views and opinions expressed in these pages.

W. C. BRAISTED,
Surgeon General United States Navy.

¹The present issue is No. 6. Nos. 1 and 2 appeared incorporated in the July and October issues, respectively, of the United States Naval Medical Bulletin.



TRAINING SCHOOL NUMBER.

THE TRAINING OF PHARMACIST'S MATES AT HAMPTON ROADS, VA.

By W. H. HALSEY, Passed Assistant Surgeon, United States Navy.

This school, which has been operating for a matter of six or seven months, is new in that it approaches and deals with a service-old problem in rather a new way. Our problem is not entirely, nor even principally, pedagogic. It is indeed the same problem that confronts every employer of skilled labor throughout the world to-day, that of "fitting the man to the job."

Shortly after the outbreak of war the Bureau of Medicine and Surgery was confronted with the necessity of filling a large and imperious demand for men for independent duty from a supply which through constant drain had become inadequate. The old Hospital Corps furnished the only known source of supply and the sudden influx of men into the lower ratings had carried many or most of the known and tried men of higher ratings into warrant and commissioned rank. They were needed in these ranks and are doing the splendid work expected of them, but they left a hiatus which it immediately became necessary to fill. Selection, classification, and intensive special training of groups of Hospital Corps petty officers seemed to offer a means to this end, and the Pharmacist's Mates School at Hampton Roads was established.

Petty officers are selected by the Bureau through the medical officers of ships and stations for a course of training at this school. No definite period of instruction is specified, but our orders are simple and concise: "Find the man who can be quickly developed for independent duty and train him for it." It follows, then, that our first duty is that of selection, or of finding the man. In order to accurately and expeditiously accomplish this, the clearing-house division of the school came into being.

Every man who enters and leaves the school passes through the clearing house, which is really an unofficial examining board composed of one medical officer and one pharmacist, with the necessary

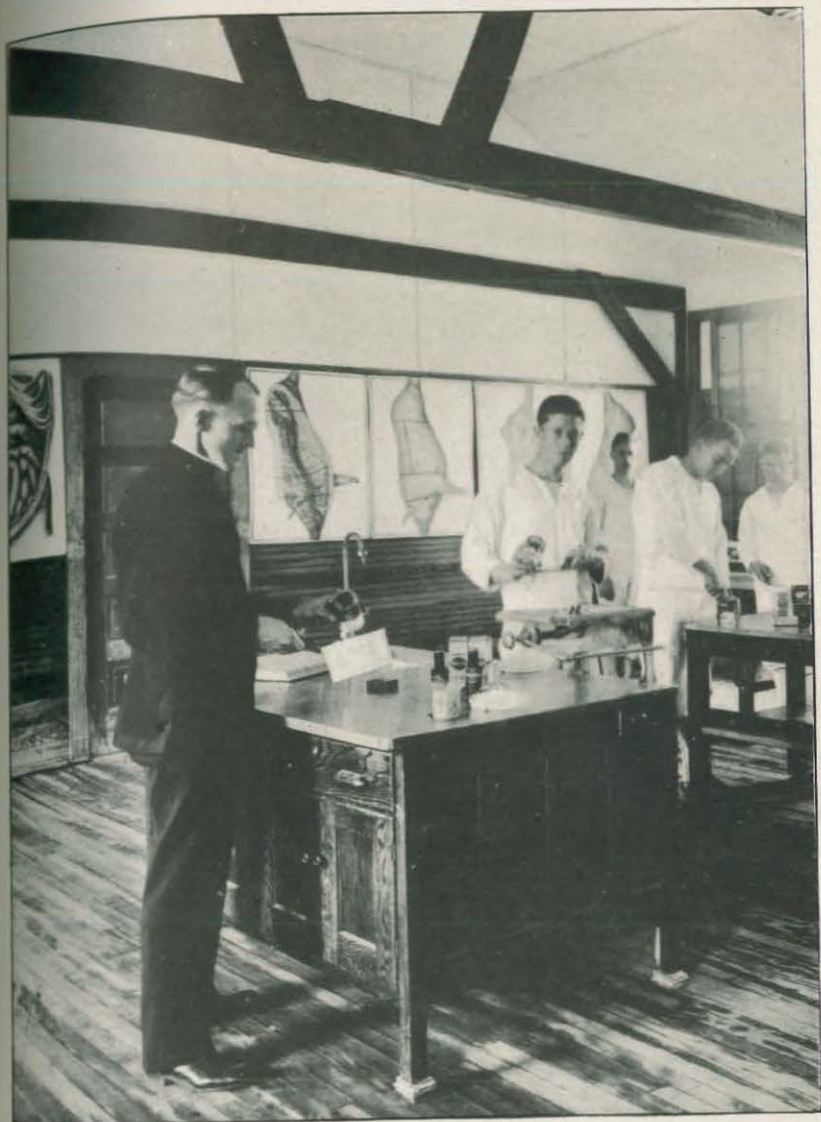
clerical help. This clearing house or board determines from the matriculant's statement exactly how much time he has spent in each of the divisions of Hospital Corps work throughout his service and where this time was spent—aboard ship, in hospitals, navy yards, etc. The figures in months go down on a card especially designed for this purpose. The candidate for admission to the school is now given a short but searching oral examination in the major duties of his rate, while an abstract of his service record is being filled in on his card. The clearing house considers his service experience, his service record, and the results of his oral examination, and selects a special course for him, designed to strengthen his weaker subjects and to round out and balance his knowledge of Hospital Corps work. This special course is mostly practical work, though all students attend lectures when not actually engaged in the laboratory.¹

The course selected by the clearing house is prescribed in hours per subject, and is laid out to embrace a period of not longer than eight weeks. For instance, if it is determined that it will be necessary for a man to spend a total of 80 hours at clerical work in order to properly handle the forms of the medical department, 70 hours at pharmacy to properly discharge the duties of his rate, 40 hours at chemistry, and 20 hours in becoming familiar (through direct contact) with articles on the supply table, this course is selected for him and each subject is assigned its certain number of hours per week. If the man advances more rapidly than the clearing house estimated, his course is shortened by that much, and he becomes more quickly available for independent duty. Reports are made on each man by each instructor once a week.

It is, of course, most obvious that every man who may be sent to the school is not qualified, even after two months' training, to assume independent duties, and it is equally true that some men selected by the clearing house as trainable for such duty later on in their course show themselves unfit or untrainable for this work. The men fit for independent duty form a small per cent of the total number going through the school, and we find that many of the men we receive must be trained for less responsible and less exacting duties. These men are sent to hospitals, hospital ships, and ships of the line, where their activities will have the necessary medical supervision.

Classification of petty officers sent to us for training has been rather a difficult task and has been the subject of constant study. We have tried to avoid too wide and too narrow a grouping, and the following, for the present at least, seems to most accurately align the men:

¹ Groups VI, VII, and VIII attend all lectures and have no especial individual course selected. They are under group instruction.



HOSPITAL CORPS TRAINING SCHOOL, NAVAL OPERATING BASE. FOOD INSPECTION.



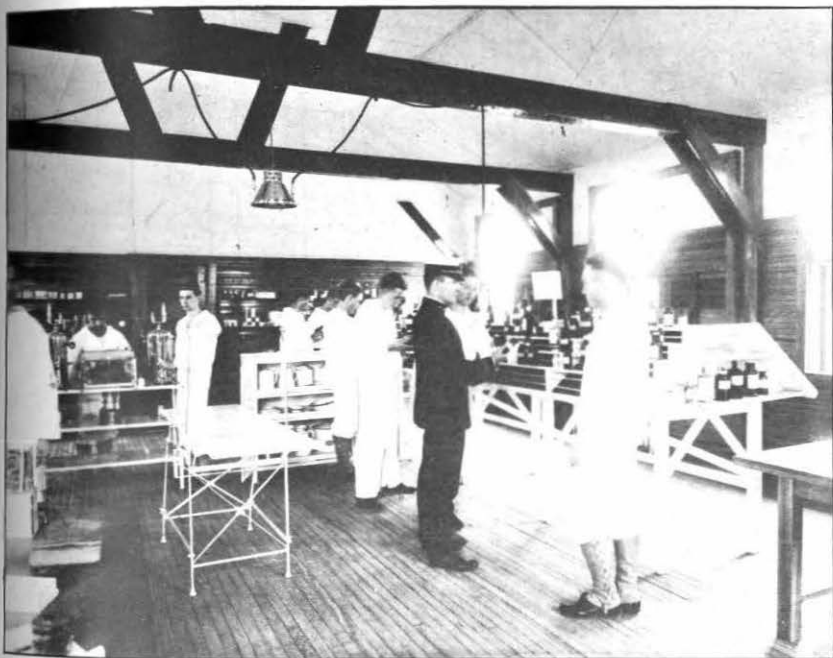
HOSPITAL CORPS TRAINING SCHOOL, NAVAL OPERATING BASE. INSTRUCTION
IN CLERICAL WORK.



HOSPITAL TRAINING SCHOOL, NAVAL OPERATING BASE. INSTRUCTION IN
HANDLING THE MICROSCOPE.



HOSPITAL CORPS TRAINING SCHOOL, NAVAL OPERATING BASE. INSTRUCTION
IN URINALYSIS.



HOSPITAL CORPS TRAINING SCHOOL, NAVAL OPERATING BASE. INSTRUCTION
REGARDING MEDICAL STORES AND SUPPLIES.



Group I.—Older service men of varied experience and training, capable of being sent out on independent duty after a very short course at the school. (A man of this type is a *rara avis*.)

Group II.—Older service men, weak in one or two subjects, but capable of being quickly brought up to standard in these. (Not so rare as Group I.)

Group III.—Newer men in the service whose ambition and worth make a varied experience possible and profitable. (More common than either I or II.) These men are trainable for independent duty.

Group IV.—The specialists: These are men who have been kept at one line of work during most of their service career, having had special knowledge in some particular branch when they came into the service or having acquired it (at the sacrifice of other Hospital Corps training) after entering. They are anomalous, one-sided, overbalanced, and only a small percentage of them are trainable for independent duty. There is no doubt that they are valuable men in their own particular specialty, but having only that, it is next to impossible to give them all the rest in a short, intensive course.

Group V.—Men who have not been in the service long enough to have had a varied experience but who have profited by what they have seen and learned. Some of these are trainable for independent duty with the maximum course.

Group VI.—Men who have just drifted along in the service; ambition absent or dormant. Occasionally one of these awakens and makes good.

Group VII.—Those who learn with difficulty, either because of defective early education or because they are just "thick." In this group we find men who have been rated because they were "hard workers." This type seldom, if ever, qualifies for independent duty.

Group VIII.—Those who do good work when working in groups, but who idle, loaf, or quit when left alone. Obviously unfit for independent duty.

Group IX.—Those temperamentally unfit for the Hospital Corps.

Group X.—Those undesirable for the naval service.

For the first five groups, the clearing house selects special courses. Each man has a course fitted to him which is designed to strengthen his weak points. Groups VII and VIII attend school in classes and should any individual show unlooked for or unsuspected capabilities he is immediately inducted into a special course. Group IX is given an opportunity to change its rating. Group X is dropped from the service.

The instruction for each man of the first five groups is strictly individual, his course being selected for him without reference to the course of any other man and his training being carried on for his individual needs. This is made possible by keeping six laboratory

courses operating every hour from 9 to 4 every day in the week, except Saturday afternoon and Sunday. The men are quizzed by sections on alternate Saturday afternoons. In addition to and separate from the laboratory courses, a lecture course is maintained which fills every hour from 9 to 4 each day. Each laboratory has a commissioned or warrant officer in direct charge who spends all his day (with the exception of one hour given to the general lecture course) in the laboratory. He has from one to three assistant instructors as helpers in the work.

The laboratory courses are as follows:

1. Pharmacy.
2. Chemistry.
3. Clerical (practical work in typewriting and making out forms, etc.)
4. Bacteriology.
5. First aid (practical application of splints, bandages, etc., use of resuscitation and rescue apparatus).
6. Dietetics.

The schedule of lectures embraces such subjects as hygiene and sanitation, first-aid and minor surgery, care of infectious diseases, regulations, supply table and equipment, pharmacy, materia medica, chemistry, toxicology, bacteriology. Each lecture is, as far as it possibly can be made so, a well-rounded period. Our lectures are in series, rather than a serial. It is our aim to make each lecture a word picture of facts, standing as nearly as can be alone and not bearing heavily on the lecture gone before or holding up the one to come. All lectures are mimeographed after being thoroughly proof read, not only by the lecturer himself but by the officer in charge of the school. The laboratory experiments in laboratories where this is possible are also mimeographed.

A weekly conference of instructors is held, and each man under instruction is reported upon and his work discussed. The officer in charge acts upon the data thus furnished after personal investigation of the facts. Ratings and disratings are recommended on data brought out at these conferences, and many sidelights on the character and worth of the men are elicited. Men who are eventually determined to be not fitted for independent duty¹ but who are qualified for other Hospital Corps work are, after a variable period of training, sent to the duty they are most capable of performing. Some leave the school in ratings higher than they held upon entrance and some in lower. Helping the man find his level—bringing him to the point where he can render the most efficient service—is our work. We are doing it to the best of our ability.

¹ By independent duty is meant that duty in which the hospital corpsman acts as the sole representative of the Medical Department, either afloat or ashore.

THE HOSPITAL CORPS TRAINING SCHOOL AT SAN FRANCISCO, CAL.

By P. F. DICKENS, Pharmacist, United States Navy.

This article is written with a view to letting the service at large know how the Hospital Corps Training School at San Francisco expanded to meet the sudden inrush of hospital corpsmen at the beginning of the war, and how it met and overcame the difficulties incident to the training of such a large number of men on short notice.

In order to thoroughly understand the situation something of previous conditions at this station must be known. At the beginning of hostilities the complement of the station, including all trade schools, was estimated at about 850 men. The Hospital Corps Training School had on its roll 61 men at that time. The school was equipped for the handling of 100 men. Soon after the arrival of the first contingent of new men, however, it became evident that the messing, housing, and teaching facilities then available were alike inadequate, and steps were taken to enlarge all of them to meet the emergency.

Upon the request of the medical officer, the Bureau of Medicine and Surgery detailed two chief pharmacist's mates as additional instructors. With this increase in force and an increase in hours and labor, 273 men were handled during the first month of mobilization.

The berthing problem was solved by the cooperation of the medical officer and the commandant, the top of the hill on the island being given to the school. The new arrivals who had not yet passed through the period of detention, graded their camps, established streets, and erected their tents before they were actually under instruction. This, at that time, was an ideal arrangement, eliminating loss of time to the men, as the new camp constructed was their quarantine camp for 21 days. While undergoing this quarantine the men, under the supervision of a pharmacist or a chief pharmacist's mate, established a sanitary and ideal camp. After the period of quarantine had expired the men entered the school for instruction.

During the second month of mobilization 453 men were received and were put through the same routine as those received during the first month; that is, they were placed in quarantine and were required to establish their own camp. No communication was held during the period of quarantine between the different units.

The mess hall, built to accommodate 100 men, was enlarged to twice the original capacity. This change, together with the cafeteria method of feeding, made it possible to handle the increase with little difficulty.

The men were divided into units, which were designated as follows: Class A, which was out of quarantine; B, which was in quarantine for its third week; C, which was on the second week; and D, which was just entering quarantine. The men were messed and camped in units as above and an efficient quarantine maintained by diligence and strict supervision on the part of all instructors.

During the third month of mobilization 633 men were enrolled in the Hospital Corps training school. The Bureau had anticipated the need and had ordered two pharmacist's mates, first class, as additional instructors, but in the meantime an instructor had been lost by the transfer of a pharmacist to the naval hospital at Mare Island. During this period the medical officer in charge picked certain members of the classes who had had previous pharmaceutical, chemical, or special educational qualifications and detailed them as assistant instructors.

The overwhelming amount of clerical work necessary to properly register and account for the large number of men and their records was met by using reserve yeomen and members of the classes who had had previous business-college training as stenographers or otherwise. During the period of mobilization the average number of men received per month was 300, and the average monthly number transferred was 180, showing the amount of work centering around the clerical department. During the month of October we reached our highest number, having 1,037 men on the rolls.

Soon after mobilization the Bureau reduced the period of instruction from six to three months, which necessitated an intensive course of training. This was accomplished by dividing the total number of men into four classes and increasing the hours of instruction. The Bureau also ordered two assistant surgeons for duty to the school, making a total of 10 instructors. With the above number on the teaching staff, 32 instruction periods were available, and it will be seen that each instructor had four hours of didactic or laboratory work daily. At the same time practical instruction was given in bacteriological work to as many students as the size of the laboratory permitted. This instruction was under the direction of an assistant surgeon and a chief pharmacist's mate and covered the actual routine work of the station laboratory. The members of the class were classified by written or oral examination, given monthly.

In order to visualize the camp construction it must be understood that the ground assigned to the school was at the beginning a virtual wilderness, without sewerage, water, lights, or other convenience. As each camp street was graded and sewerage established the medical officer notified the commandant, who immediately had water and lights installed. Each tent is electrically lighted and is heated by an oil stove.

As the members of the Hospital Corps Training School built their camp they received practical demonstration in camp construction, disposed of waste, hygiene, and sanitation. The usual nuisances of a camp were avoided by impressing on the members of the classes that they were sanitary units of the Navy, and it is believed that lessons learned in this manner were of far more value than could have been given in regular class work.

To tell of the increase of the school and to adequately picture it would be impossible in an article of this kind. Some idea of the change may be gleaned from the accompanying illustrations, which show small portions of the camp. The new building shown was authorized by the bureau at a cost of \$21,000. This building, under the new plan of sleeping, i. e., 5 feet between centers of hammocks, will accommodate 200 men and mess, under the cafeteria system, 1,500 men. It has ample office space, shower baths, heads and a drying room, and is excellently constructed throughout.

In addition to the building, 200 tents are now being used. These are on sloping ground, are dry, sanitary, lighted by electricity, and well heated. The company streets have sanitary drinking fountains and an open-box sewerage system. The camp streets at night are lighted by a flood light which is very efficient. In order to dispense with the nuisance incident to the use of night cans by such a large body of men, a separate head has been constructed about midway between the two camps, available to all camps, and is therefore one of the best sanitary conveniences.

Instruction.—This school carries on an extensive course, at the present time running four classes each hour with some 120 men to the class, and this is considered the best method of handling the situation in order that each instructor may have personal contact with his men. The school handles all of the drugs for the station and maintains an exceptionally large dispensary, which is necessary to meet the requirements of the number of men on the island. This is in charge of a pharmacist, and members of the class are detailed for practical experience in the dispensary from time to time.

One of the most pleasing features at this school is the harmony which exists between this and other departments. The school was divided by Passed Assistant Surgeon W. H. Halsey, United States Navy, in an ideal system which is roughly divided into administrative staff and teaching staff. The medical officer in charge is in virtual command under the commandant and has a pharmacist as executive. All the teaching staff is under the supervision of an assistant surgeon, and of course comes under the administrative head as a whole.

For military drill, the school is divided into four divisions and each division has a pharmacist as a division officer, who is responsi-

ble for his division to the executive officer, just as is the division officer on board ship. Each division constitutes a class and a battalion. It is a separate unit and in competition with the other units of the school.

Athletics.—Even during these trying times it was not forgotten that a well-contented crew produces better results than one which has all work and no play; therefore, a pharmacist was appointed as athletic officer, who, during the latter portion of the summer, assembled one of the best football teams on the Pacific coast, probably the best Navy team that this coast has seen in years. The school spirit immediately arose, and the student body tried to keep above the required average of three, in order to be able to attend the games. The officer managing the team worked with untiring effort, and a glance at the following games and scores will show that the Hospital Corps held its own during the football season.

United States Naval Hospital Corps Training School	32	Navy Hospital, Mare Island	0
United States Naval Hospital Corps Training School	7	University of California	14
United States Naval Hospital Corps Training School	32	St. Ignatius College	14
United States Naval Hospital Corps Training School	40	St. Mary's College (reserves)	0
United States Naval Hospital Corps Training School	54	Fresno (Cal.) Tigers	0
Total	165	Total	28

The average weight of the team was 178 pounds, and a glance at the picture will show that it was an extremely "hard nut to crack."

Two forms have been devised as giving the best method of classifying the hospital corpsmen under instruction into (1) the general register; and (2) the card index:

1. The *General register* is a loose-leaf ledger. This form shows at a glance the student's progress and gives in detail his qualifications when the time comes for transfer, and is a great help in the selection of qualified men to fill special details. This form also gives the necessary information for making out all the reports to be forwarded in case of a transfer. The particular subject in which the student may be deficient stands out and serves as a key to the instructor to give added instruction in that subject. It will also be noted that this leaf shows the exact location of the man in the camp, giving his fire and detail stations.

2. The card-index system of the school gives the necessary information for the making out of the personal memorandum to the Surgeon General and also the examination reports.

ABSENT

Date.	Cause.
.....
.....
.....

TRANSFERRED.

	Date.	Days.
Hospital.....
Sick list.....
Total days.....
Remarks:.....

GRADE.

Subjects.	January.	February.	March.	April.	May.	June.
Arithmetic.....
Geography.....
Grammar.....
History.....
Spelling:
1.....
2.....
3.....
4.....

REPORTS FORWARDED.

Examination report.....
Efficiency report.....
Report of transfer.....
Change of rating.....

(BACK)

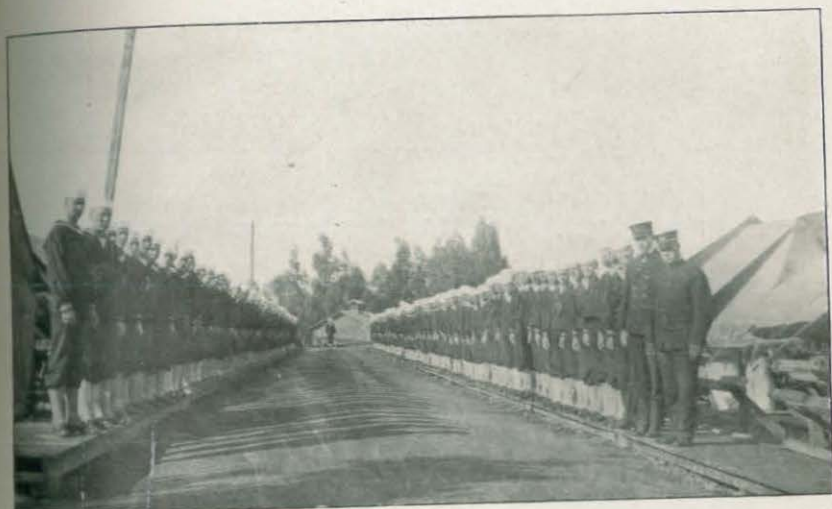
THE HOSPITAL CORPS TRAINING SCHOOL, NEWPORT, R. I.

By H. L. RYAN, Pharmacist (T), United States Navy.

The Hospital Corps school at this station was originally a naval hospital, and upon the completion of the new naval hospital the building was turned into a Hospital Corps training school and started with a small class of men. The building lends itself admirably for this purpose, being shaped like a half wheel with four spokes. The spokes in question were four wards 20 by 55 feet. Two of these wards are now used as lecture rooms, having a seating capacity of 300 men each. The other two wards are fitted up as pharmaceutical laboratories for practical work. Each of these laboratories has a working space for 250 men. The main hall is used as a museum. Glass cabinets line the walls, containing a complete exhibition of crude and finished drugs, together with all the instruments, appli-



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. STREET IN CAMP BRAISTED.



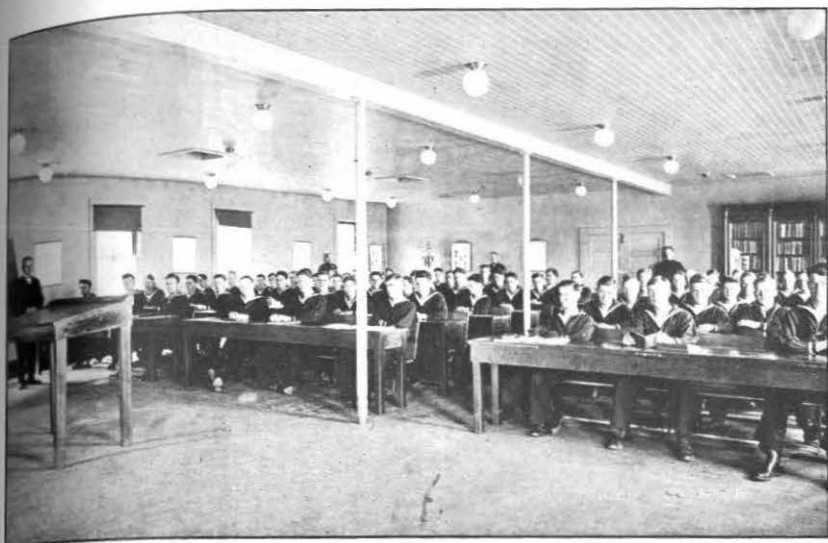
HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. AWAITING "DIVISION INSPECTION."



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. A STREET IN CAMP BRAISTED.



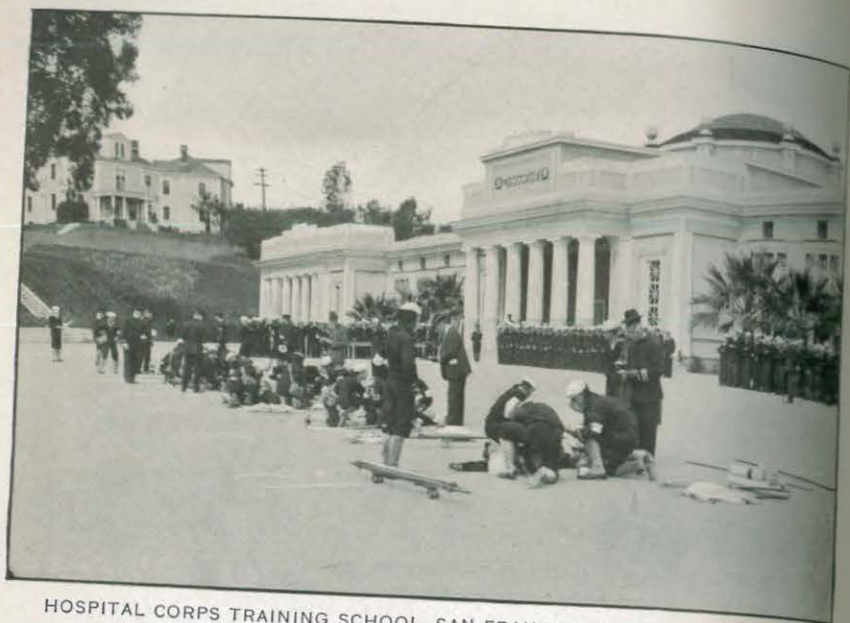
HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. FINISHING A COMPANY STREET, CAMP BRAISTED.



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. ONE OF THE
LARGE CLASSROOMS NOW IN USE.



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. FOOTBALL TEAM.



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. COMPETITIVE FIRST-AID DRILL.



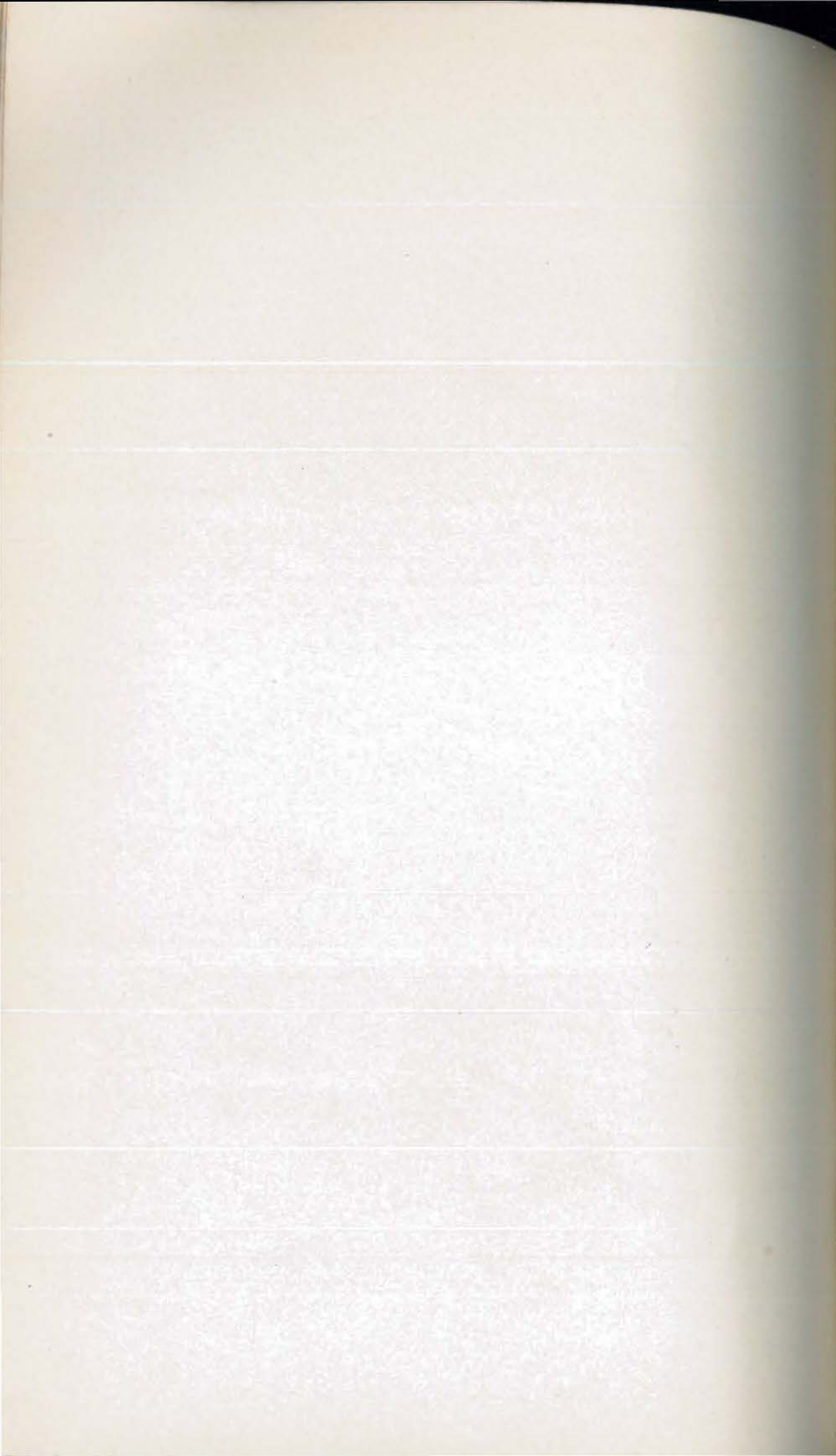
HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. VIEW OF CAMP HALSEY.



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. HOSPITAL CORPS-
MEN PROTECTED AT "STREET CROSSING" DRILL.



HOSPITAL CORPS TRAINING SCHOOL, SAN FRANCISCO, CAL. A COMPANY
STREET.



ances, and dressings used by the Medical Department of the Navy. The various small rooms have been fitted out as bacteriological laboratories, pharmaceutical compounding rooms, storerooms, etc. The number of men under instruction at this school before war was declared was never large. About a month after hostilities commenced, however, there were 500 to 700 men under training at this school, with about 200 men in detention waiting their turn to enter the classes. The demand for hospital apprentices was so urgent at this time that the course had to be cut down from six to three months. This condition only lasted a short time, and at the present writing the six months' course has been resumed and the men under training number 500, with about 200 in detention.

Recruits in the Hospital Corps at this station are placed in detention for a period of 30 days before being transferred to the school. Upon admission they are assigned either to the port or starboard watch. Each man is issued a copy of the Handy Book for the Hospital Corps and a list of the printed rules of the school. After a short talk by the officer in charge they are taken over to their respective shacks and assigned to a bunk. Each man attends lectures daily except Saturday and Sunday from 9 a. m. to 4 p. m. in his respective lecture room, known as the starboard or port lecture room. Cleaning details and liberty is arranged on this plan. One watch being aboard at all times. Each man remains in his respective watch until graduation. The men are quartered in shacks irrespective of watches. They are alphabetically arranged, about three letters to a shack. There are about 100 men to a shack, of which there are five. The previous occupation of each man is entered on his card and kept in a file index.

The curriculum consists of all the subjects laid down in the Handy Book, which is followed very closely. Toward the close of the term, however, the men are placed in what is known as the "special class," where they are taught special subjects, such as the care and use of the microscope, the preparation of slides, the examination of urine, blood counting, etc. The examinations are written, oral, and practical, and cover every subject. A mark of 2.5 in each subject is necessary to pass. Upon graduation the men are rated HA-1 and transferred to the various hospitals and shore stations. The man making the highest average is permitted to have first choice among the various stations on the list.

Monday, Tuesday, and Thursday evenings from 7 until 8.30 p. m. are devoted to study. Wednesday and Saturday evenings a long moving-picture program is arranged. The moving-picture machine, a gift to the school by the Newport chapter of the Red Cross, has been permanently arranged in the port lecture room, and has proved

a valuable addition to the school. The Bureau has recently approved a requisition for stereopticon slides of a scientific nature covering a wide range of subjects, and with the addition of dark shades in both lecture rooms the use of the stereopticon will be embodied in the daily lectures.

It has often been a matter of regret to the officer in charge that there was no way by which he could keep in touch with the men who have graduated from the school. He would be very glad to hear from them either through the columns of the SUPPLEMENT or otherwise. He would also be glad to hear from the various medical officers regarding the work of these men, and any criticism would be more than welcome, so that weak points in the curriculum could be corrected at this end.

If this article reaches the eye of graduates of this school, which no doubt it will, let us hear from you. Use the SUPPLEMENT as a means to keep in touch with the school. Remember that the officer in charge and all the instructors would be more than glad to hear of your promotion or any other honors that may come to you in the service.

THE HOSPITAL CORPS SCHOOL AT THE UNIVERSITY OF MINNESOTA.

The faculties of the dental and medical schools of the University of Minnesota offered to receive for training 100 hospital corpsmen for a four months' period. This generous offer was accepted by the Surgeon General, and already two classes of 100 hospital corpsmen each have had the advantage of four months' schooling at that university.

The extensive and well-equipped laboratories, clinics, out-patient departments, hospitals, lecture halls, and classrooms of these schools make a marked contrast to the tents and barracks in which medical officers of the Navy have been called upon to instruct hospital corpsmen during the past year.

A series of pictures from the University of Minnesota is printed in this number of the Supplement. These pictures not only show very well the excellent facilities of the University of Minnesota for the training of hospital corpsmen, but also illustrate the type of training given hospital corpsmen in the naval hospital after they leave the Hospital Corps school.

The nurses, doctors, dentists, and other members of the faculty of these two schools are deserving of the highest praise for the enthusiasm which they have shown in the training of hospital corpsmen.



HOSPITAL CORPS TRAINING SCHOOL, NEWPORT, R. I. "AIR BEDDING."



HOSPITAL CORPS TRAINING SCHOOL, NEWPORT, R. I. STRETCHER DRILL.



HOSPITAL CORPS TRAINING SCHOOL, NEWPORT, R. I. STRETCHER DRILL.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

The superintendent of nurses at the university hospital directs the course in bandaging: six periods of 90 minutes each.



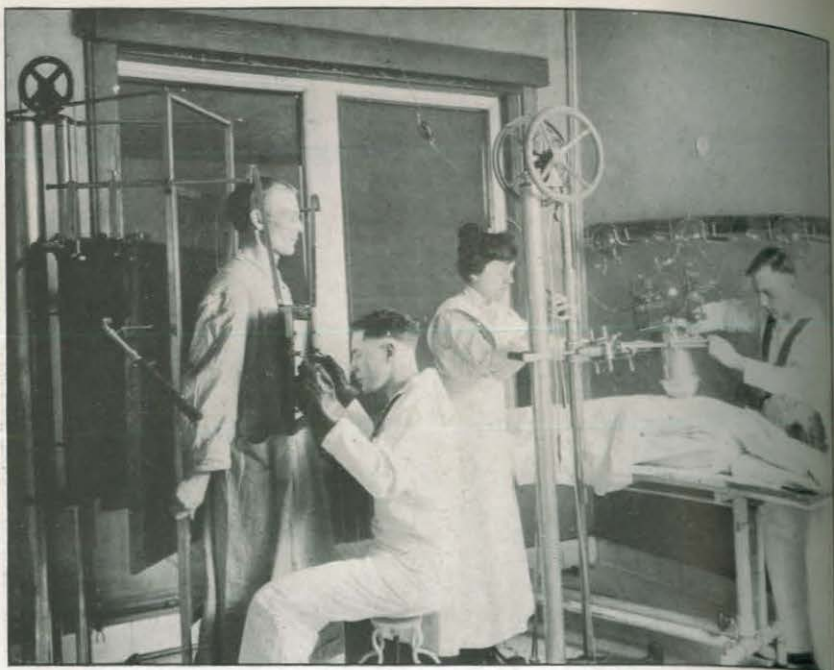
UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

A lecture in pharmacology is followed by the application of the principles discussed.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

The professor explains with the skull the essential surgery of the maxilla.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

Not only are the hospital corpsmen trained in making X-ray examinations, but they learn to develop the plates as well.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

Daily instruction is given in the salvarsan and neosalvarsan treatment for syphilis.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
Hospital corpsmen assisting an eye, ear, nose, and throat clinic.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
The assistant superintendent of nurses gives practical instruction to hospital corpsmen.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
Instruction in clinical nursing.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
Anatomy lectures three times a week are illustrated by charts, wax models, and skeletons.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

Lecture on tooth structure, illustrated by giant models.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

Each specific operation of bathing the patient must be performed to the satisfaction of the head nurse in charge.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

For instruction in the clerical work of the sick bay, the university has turned over to the hospital corpsmen the faculty meeting room.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

Details of the bed bath and toilet cover an instruction period of one and one-half hours.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

To learn to compute a hypodermic dose, every hospital corpsman takes his turn at the blackboard. When he has solved half a dozen problems he measures out the drug and administers it.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

In a kitchen near the ward, the hospital corpsmen are taught how to make poultices and mustard plasters.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
Hospital corpsmen learning cleanly, economical preparation of food.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.
Hospital corpsmen cleaning, extracting, and filling teeth in connection with the study of oral hygiene.



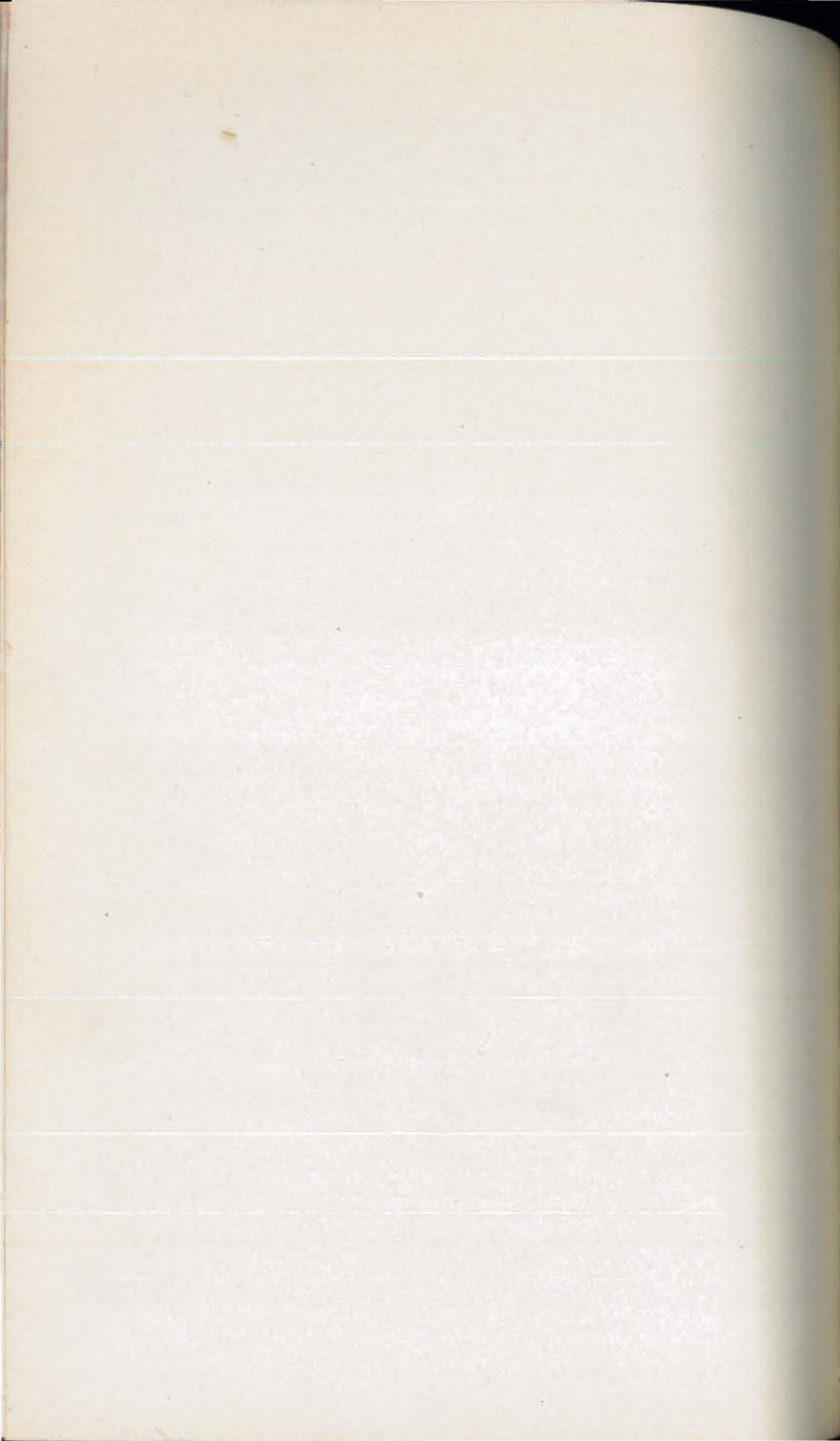
UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

At the institute of pathology each hospital corpsman makes slides and cultures and gets a course in urinalysis.



UNITED STATES NAVAL TRAINING SCHOOLS, MINNEAPOLIS.

After detailed training each hospital corpsman is assigned a patient in the hospital whose chart must be kept correctly if the pupil is to be recommended for advancement in rating.



THE TRAINING OF HOSPITAL CORPSMEN IN THE NAVY.

By J. B. KAUFFMAN, Surgeon, United States Navy.

It is doubtful if any large number of medical officers in the service fully appreciate the manner in which hospital corpsmen are trained at the various training schools in the Navy, and this article is written with the idea of acquainting medical officers with the course in order that they may fully appreciate what "follow-up" instruction they should pursue in order to further develop these men in the duties of their rating.

The course at these schools is essentially theoretical in most branches, while practical work is introduced whenever this can be done. These schools are not connected with hospitals, for instance, and therefore nursing problems, for example, must be overcome for the most part by didactic lectures. It must not be surmised from this that apprentices are merely told how to take the temperature or pulse, as the case may be, for it is a perfectly simple matter to require that they determine these factors by actual practice on one another; but it is manifestly impossible for them to receive a like practical application in hypodermic injections, saline transfusions, or the like.

It is quite necessary, therefore, for medical officers to realize that when they receive men directly from any of these schools they will find hospital apprentices, first class, for the most part filled with an abundant supply of theoretical knowledge and a mere sprinkling of the practical. It is expected that these men will be developed by those medical officers into whose hands they may pass. They will naturally receive practical instruction if ordered directly to a hospital, and such immediate transfer is the aim of the Bureau; but where orders, as has often been by necessity the case, transfer them from school to ship, their instruction should be most carefully followed up by the medical officer of the ship. If this is not done conscientiously a good bit of the work accomplished at these schools will be misspent.

When a hospital apprentice second class (recruit) is received at a training station, he is received in detention and there remains for three weeks. During this time he receives the A B C's of the Navy, and his training is the same as that of all other enlisted men for this period of time. He is taught the infantry drills, signals, etc., and, at the end of his detention period he is transferred to the school. Here his course of instruction may vary a trifle, depending on which of the schools he happens to attend; but as the writer initiated the Newport school, founded the Great Lakes school, and sacrificed one of his best instructors to furnish the officer in charge for the Jamestown school, it would be fair to assume that a synopsis of the course

of instruction at the Great Lakes school would present a fair average of the curriculum in force at these training schools for hospital apprentices. The following is the plan as carried out at this station:

The recruit is carefully interviewed to note whether or not he has had any previous education or experience in any of the branches taught. The percentage possessing any of these qualifications was small before the war, but since that time has seemed amazingly high. This experience for the most part embraces medical students, pharmaceutical students, dental students, graduates in pharmacy, drug-store clerks, and a large number of men who have been pursuing biological courses in various institutions of learning. Due to the sudden influx of men in May and June and because of the want of teaching space sufficient to accommodate the large number of men in the school, it was divided into various sections, such sections being filled with men of various degrees of previous medical training and these men, who reported from detention, are classed accordingly. It is needless to say that the majority fall into the so-called freshman class, or, perhaps, classes I should say, as here at Great Lakes, where we have had nearly a thousand under instruction at one time, we have had to divide and subdivide this class.

The proposition would be much easier if the course of instruction were divided into semesters and newly made up classes started on an equal footing. However, realizing, as we do, the constant demand for these trained men, all of us will appreciate how impossible it would be to delay their training until a six months' semester had passed and a new class begun.

The studies pursued are practically the same in all the schools, as the curriculum is outlined by the Bureau and the guide is the Handy Book for the Hospital Corps.

In anatomy and physiology a most thorough course of didactic lectures, with demonstrations on skeleton and manikin, is given. In a recent inspection of a school to be started at the Dunwoody Institute (an adjunct of the Great Lakes station) I found a most excellent course outlined by the professor of anatomy at the University of Minnesota, where these lectures are given. The men there are to be allowed some dissecting privileges and are furthermore to receive a brief but concise course in histology.

The course in hygiene and sanitation embraces a series of lectures which follows rather closely that outlined in the Handy Book. Students are trained in the selection and preparation of food and the selection of potable water. The proper disposal of waste material, the care of latrines and incinerators, and the problems of hygiene and sanitation in camp and on the march receive attention. The course in personal hygiene is thorough and embraces care of

teeth, nails, clothing, as well as venereal prophylaxis. Opportunity is given for practical work along the line of camp sanitation. Men are divided into squads and do practical work in the care of drinking units, incinerators, latrines, and in the destruction of infective agents, such as mosquitoes, flies, etc.

The most difficult course to handle is pharmacy; but as we recognize that in these schools a hospital corpsman finds the one and only place where he may learn this branch, we bend our efforts toward making him as efficient as possible. With this idea in view we supplement our lectures with all the practical work in the pharmaceutical laboratory that can possibly be crowded in. As a matter of fact, it seems that the mortar and pestle, the evaporating dish and lamp, the funnel and graduate are all on duty continuously except for the week end. For instance, when a man learns the definition of a tincture, he then makes it. It is the same with an extract, a water, an ointment, and so on, up to the compounding of prescriptions.

The course in *materia medica* staggers the majority of hospital apprentices until they have been pursuing the subject for two or three months, when the light of day begins to dawn and they absorb the subject more readily. In lectures on *materia medica* the various official drugs are described, and the most important preparations discussed, particular emphasis being laid on the dosage. The drugs on the supply table are favored with extra time, and the work in general is made easier by a museum filled with all the crude drugs open for inspection. Under the guidance of an instructor the men are allowed to view and handle the drugs as much as is deemed necessary and safe.

The course in nursing is essentially a theoretical one, but no opportunity is lost to add practical work whenever this can be done. The lecturer demonstrates, in every case where it is possible, the particular nursing procedure upon which he happens to be lecturing.

In first aid the aim is to give as thorough a course as is possible. All injuries are simulated as closely as possible and the men under instruction are required to put into practical application the proper treatment. The same lecturer handles the course in emergency surgery and also in bandaging.

The course in chemistry is distinctly elementary and is for the most part theoretical. It is deemed inadvisable to lead these men beyond inorganic chemistry, as experience has taught that, with a few exceptions, they become greatly discouraged when hopelessly entangled in a six-months' course on organic chemistry.

Toxicology is taken up in conjunction with *materia medica*; i. e., in describing the physiological action of drugs; if the drug in question happens to be a poisonous one, the symptoms are described, then

the treatment, including antidotes and antagonists. After the completion of the course in materia medica the course in toxicology, as laid down in the Handy Book, is carefully gone over.

Much stress is placed on the instruction in clerical forms peculiar to the medical department of the Navy, and frequently men are required to fill out these forms. Included in this subject is an intensive course in the taking of finger prints, and a man is required to continue at this until he is able to take prints satisfactory to the officer in charge.

A laboratory course is outlined which, for want of a better term, we have named the bacteriological, although the study of bacteria is but a small part of it. The men here learn the care and make up of a microscope, the various common stains that they might be called upon to use, urine examination, blood-cell counting (including the differential), examination of feces, limited water examination, milk examination, etc. In this way, for instance, they may become available to assist the medical officer aboard ship where the nature of pus discharges are an all-important diagnostic point. A stock of slides showing malarial parasites, the eggs of the most common intestinal parasites, etc., are included in the equipment of this laboratory, and these are demonstrated until each man becomes thoroughly familiar with them. Each man, before leaving school, is required to qualify in laboratory work to the extent of carrying out each test without assistance and in a manner satisfactory to the instructor.

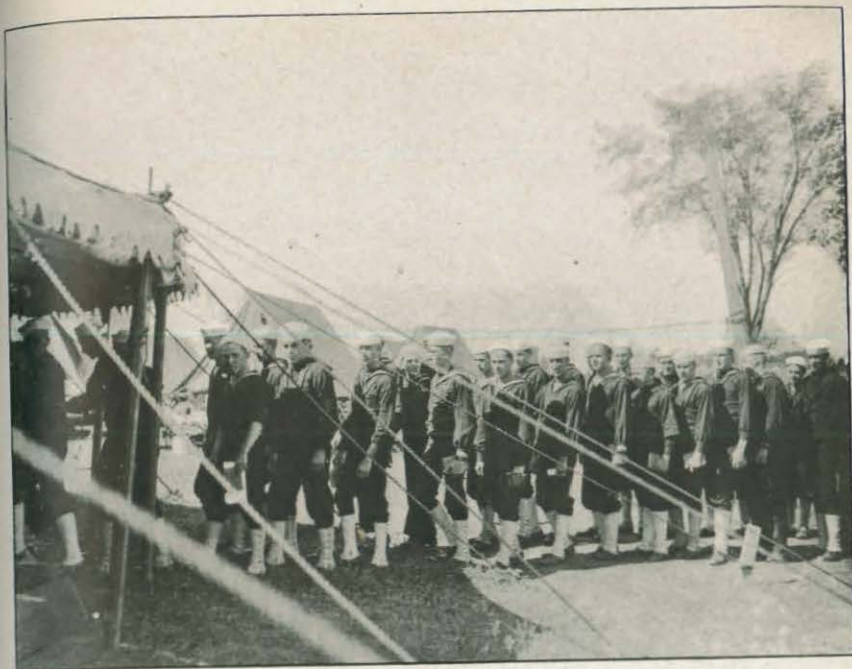
When the school is reduced to normal, more time can be given each man in this course and there will be few, if any, leaving here who are not fully qualified to make tests and examinations ordinarily required by a medical officer. It is not the intention to turn out specialists, or near specialists, but to teach in a thorough manner how to make those examinations which every hospital corpsman should know. As one of the instructors remarked: "This course will be valuable if for no other reason than that these hospital apprentices will know how to properly get out and stow away the microscope aboard ship, when the medical officer wishes to use it."

The drill with the Army litter and the splint stretcher is an essential part of the course of instruction. This corresponds to the manual as published by the Bureau.

THE HOSPITAL CORPS TRAINING SCHOOL, GREAT LAKES, ILL.

By G. L. CRAIN, Pharmacist, United States Navy.

In the latter part of 1916 the Surgeon General, with the hearty approval of the commandant at Great Lakes, recommended to the Secretary of the Navy that a hospital corps training school be es-



HOSPITAL CORPS TRAINING SCHOOL, GREAT LAKES, ILL.

Hospital corpsmen entering tent used as classroom.



HOSPITAL CORPS TRAINING SCHOOL, GREAT LAKES, ILL.

Instruction in practical pharmacy.



HOSPITAL CORPS TRAINING SCHOOL, GREAT LAKES, ILL.
Practical instruction in bandaging and first-aid treatment.

established at this station. This recommendation was approved, and a medical officer was detailed by the Bureau for this duty.

Surgeon J. B. Kaufman, United States Navy, the officer who organized the hospital corps training school at Newport, R. I., in 1914, reported for this duty January 13, 1917, and after consultation with the commandant recommended that quarters be assigned in the instruction building, the quarters formerly occupied as the station sick bay. These quarters being assigned, room 26 was selected as a lecture room, room 27 as a pharmaceutical laboratory, room 28 as an office, room 28-a as a bacteriological laboratory and storeroom, and room 30 as sleeping quarters.

On January 25 a chief pharmacist's mate was ordered here and requisitions were prepared and submitted, based on a complement of 50 men. On February 23 and 25 two more chief pharmacist's mates reported, which permitted us to speed up a little in our preparation. As there were about 15 hospital apprentices here at this time and more were coming up for change of rating daily, we wanted to begin instruction.

On March 5 we opened the school with a class of 20; one medical officer in charge and three chief pharmacist's mates as instructors, with the following routine:

Reveille	5.30 a. m.
Breakfast	7.30 a. m.
Swedish drill	8 to 9 a. m.
Instruction	9 to 12 m.
Dinner hour	12 to 1 p. m.
Instruction	1 to 3 p. m.
Drill	3 to 4 p. m.

The instruction was so arranged that the class received two 1-hour periods in anatomy and physiology, bandaging and first-aid, pharmacy—theoretical and practical, materia medica and toxicology, chemistry, nursing, and one 1-hour period of hygiene and sanitation per week.

On March 12 an additional chief pharmacist's mate arrived for duty as an instructor, making four chiefs and the officer in charge. During the month 53 additional hospital apprentices were assigned to the school, some of them without having received the usual infantry instruction, as the detention camp was so crowded that they were sent over before completing their detention period.

During the month of April 260 additional hospital apprentices were assigned to the school. The school was divided into four companies and each instructor was assigned a company and made responsible for the care and discipline of his company in addition to giving instruction to the four classes in the particular subjects assigned him.

The school at this time had expanded much more than had ever been anticipated. However, through the hearty cooperation met with on all sides we soon overcame the obstacles that always arise with any sudden expansion. Rooms 6 and 7 in the instruction building, which had been assigned as additional sleeping quarters, had to be cleared and utilized as lecture rooms and the rigging loft utilized as sleeping quarters. One pharmacist's mate, first class, reported during the latter part of this month as an instructor.

During the early part of May two assistant surgeons were assigned as additional instructors, taking over the subjects formerly taught by the officer in charge, the latter utilizing his time to better advantage in a supervisory capacity. About this time an epidemic of cerebrospinal meningitis broke out on the station, and as two of the cases were from the Hospital Corps Training School we were ordered out of the instruction building into tents, and, as the weather was anything but pleasant, the instruction consisted mostly of drill, first aid, and bandaging. Realizing that the space obtainable for the rapidly growing school was inadequate for instruction purposes, and as the policy of this school was and is to overcome all obstacles, the officer in charge evolved the idea that as we were quartered in tents and there was no room obtainable in buildings for instruction we might as well give our instruction under canvas; therefore he requisitioned six 40 by 80 foot tents. These tents, when received, were put up in Camp Paul Jones (to the north of the main station), one tent being assigned each company of 150 men for classroom and one divided and utilized for pharmaceutical and bacteriological laboratories. The question of platforms for tents and seats for students now arose. In order not to delay instruction more than was necessary the lumber for the platforms was borrowed from the supply department and the requisition covering the amount used was forwarded. When the question of seats came up different firms in Chicago were visited and seats were selected with a view to comfort, adaptability, and quick delivery. While awaiting the delivery of seats the furniture, pharmaceutical desks, shelving, sinks, etc., were removed from the instruction building by the school force and installed in the laboratory tent. The remainder of the school force were given lectures seated on the floor of the tents or were taught first aid and bandaging in the open air. The school this month transferred 34 men, lost 2 by death, and gained 475, making a total remaining of 765 in the school, the same having been equipped for 50.

During the month of June the instruction was well under way, and little or no interruption occurred to hinder its progress. There were more students under instruction during this month than at

any other time, a total of 768 men being actually under instruction at the school, with about 250 in detention. From this time on the number in the school began to dwindle, as the winter quarters were limited and the schools had enough men under instruction to fill the quota of the corps.

During the month of August two companies had to be removed from the camps east of the mess hall to permit the erection of a laundry building. These tents were erected north of the instruction tents, in four rows of 25 tents each, making two company streets. Special care was exercised in the building of this camp. Scrap 2 by 4 inches was utilized in making the framework for sidewalks, the center being filled with cinders, and small sidewalks leading from the long walks to each tent. Enough space was allowed between the third and fourth rows to permit the airing of bedding, with a generous passageway between the rows of bunks. Friday evening the invariable rule was to whitewash the framework of the sidewalks in order that they might be nice and white for Saturday's inspection. This camp elicited favorable comment from the commandant. While out driving he had his car stop, inquired the names of the company commanders, and stated that the camp was a model one, and that he desired others to see it. Pictures of this camp were published in the November number of the Great Lakes Recruit, under the title of "A Model Camp."

Up to April 6, 1918, the Hospital Corps Training School sent out to hospitals for practical instruction or to general service 1,255 hospital apprentices, first class.

From the present outlook the school this year promises to be as large if not larger than last year, the present status being: One officer in charge. Instructors: Two junior medical officers, 5 pharmacists, 1 chief pharmacist's mate, 10 assistant instructors, with 578 students actually under instruction and 309 undergoing instruction in infantry drill, etc., in the detention camp.

TRAINING HOSPITAL CORPSMEN AT CIVIL HOSPITALS IN GREATER NEW YORK.

By R. MARTIN, Pharmacist (T), United States Navy.

In December, 1917, various civil hospitals of Greater New York expressed their willingness to "do their bit" by allowing the hospital corpsmen of the cruiser and transport force, United States Atlantic Fleet, to take an intensive training course. The way was opened officially by the commander of the cruiser and transport force. Without his active interest and hearty cooperation there could

not have been started a work which has proven to be not only of great benefit to the service in general but to the men directly concerned. Credit for suggesting and formulating the arrangements should be given to Surgeons Morris B. Miller and William S. Bainbridge, of the Naval Reserve Force, serving on board large naval troop transports.

Dr. J. G. Young, of 34 Gramercy Park, on the staff of the Polyclinic Hospital, New York, has been the "man behind the gun," and it is he whom we must thank for unremitting zeal in our behalf and for placing the men in the various hospitals and visiting them daily to determine the results of their work and to aid them in any way possible.

When the courses were first started they were to have been for a period of 10 days, but the time limit has since been lifted, and now the men receive training for as long as the ship to which they are attached remains in New York, provided a minimum of 6 days is contemplated.

The senior medical officer of each ship sends a radio to the commander of the cruiser and transport force the day before the arrival of the ship in New York, giving the number of men available and the number of men for each course. Upon receipt of radio the force commander notifies Dr. Young, who then has time to arrange for places for the men to work. Upon arrival the ship's senior medical officer communicates directly with Dr. Young by telephone to learn where and when the men are to report. Usually they report at 8.30 a. m. to the superintendent of the hospital to which they have been assigned. They report in "blues," taking a clean suit of "whites" with them and changing at the hospital. The accompanying illustrations were taken in "blues" for purposes of distinguishing the men. The men remain on duty until 4.30 p. m. The midday meal is furnished by the hospital, thus eliminating all expense on the part of the men, with the exception of car fare, a matter of 10 cents a day, which could not be invested in a better manner. The men have been more than glad to stand this small expense, realizing that it will be repaid in the future by quicker advancement in rating than if they had had no such training.

The following courses are available: Carrel-Dakin wound sterilization, operating-room work, laboratory, dispensary, general nursing. As soon as the necessary arrangements can be made, X-ray anesthesia, genito-urinary work, contagious nursing, and dietetics will be added.

The Rockefeller Institute has a model army-base demonstration hospital. Not only is the Carrel-Dakin wound sterilization taught there, giving the technique of preparation of the solution in all its



THE "MODEL CAMP" OF THE HOSPITAL CORPS TRAINING SCHOOL,
GREAT LAKES, ILL.



THE MORNING AFTER THEIR SHIP ARRIVES IN THE PORT OF NEW YORK
THE HOSPITAL CORPSMEN REPORT AT A CENTRAL OFFICE IN THE
CITY WHERE THEY ARE DISTRIBUTED TO THE VARIOUS INSTITUTIONS.



HOSPITAL CORPSMEN ENGAGED IN PRACTICAL WORK AT THE FLOWER HOSPITAL, NEW YORK.



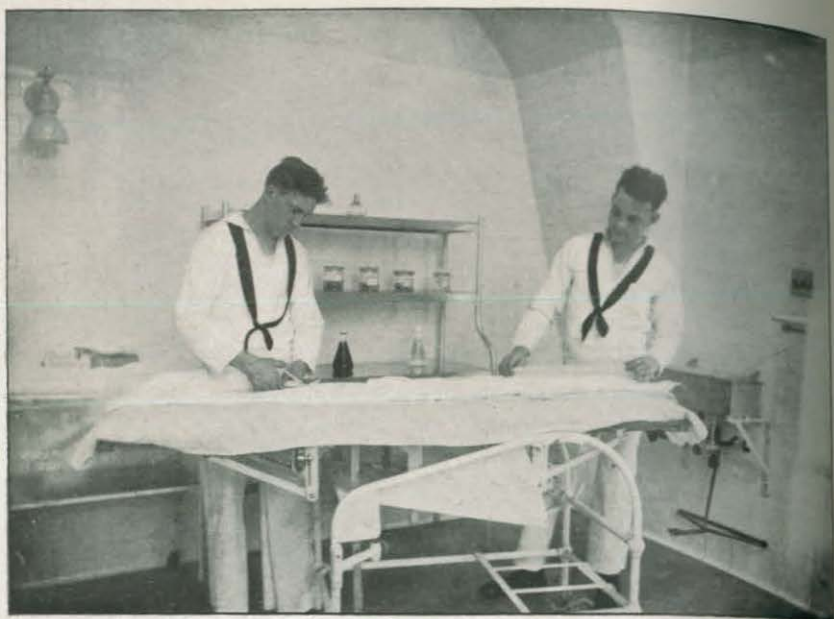
HOSPITAL CORPSMEN PUTTING ON BANDAGES AT THE BROAD STREET HOSPITAL, NEW YORK.



HOSPITAL CORPSMEN DOING DRESSINGS AT THE HUDSON STREET HOSPITAL, NEW YORK, WHERE THERE ARE A GREAT MANY SAILOR PATIENTS.



HOSPITAL CORPSMEN ASSIST OPERATING-ROOM NURSE IN PREPARING FOR AN OPERATION. RANDALL'S ISLAND, NEW YORK.



HOSPITAL CORPSMEN MAKING SURGICAL DRESSINGS AT THE CITY HOSPITAL,
BLACKWELL'S ISLAND, N. Y.



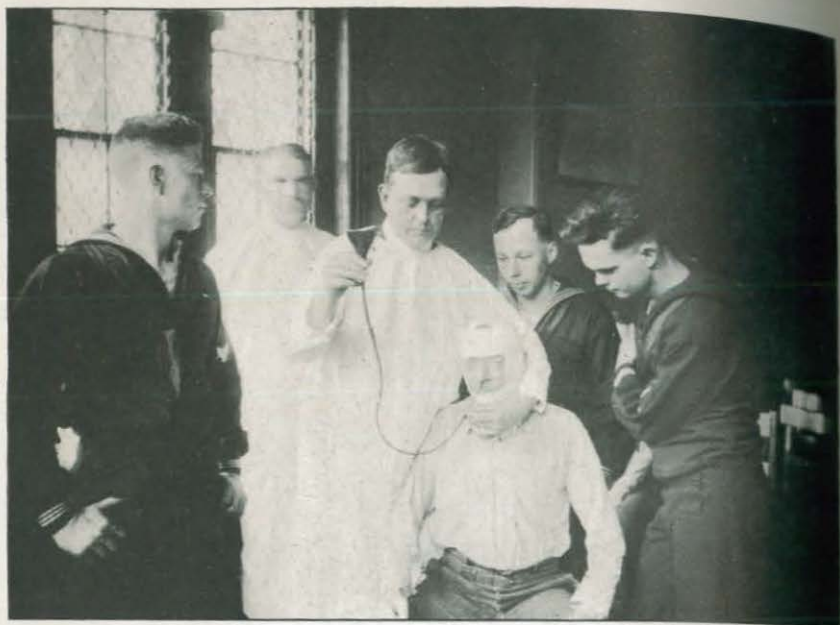
HOSPITAL CORPSMEN DOING GENERAL NURSING IN THE WARDS OF BELLEVUE
HOSPITAL, NEW YORK.



HOSPITAL CORPSMAN PREPARING STERILIZED DRESSINGS. WAR DEMONSTRATION HOSPITAL, ROCKEFELLER INSTITUTE, NEW YORK.



HOSPITAL CORPSMAN WORKING IN THE X-RAY LABORATORY. NEW YORK POLYCLINIC HOSPITAL.



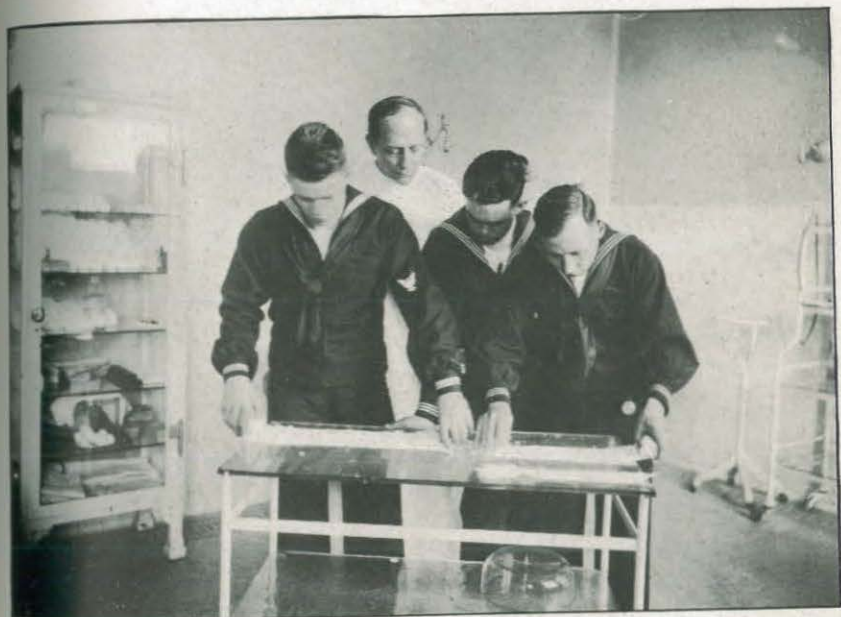
HOSPITAL CORPSMEN SHOWN HOW TO USE NASAL FEEDING AS REQUIRED IN CASES OF FRACTURED JAW, ETC. NEW YORK POLYCLINIC DISPENSARY.



HOSPITAL CORPSMEN DOING MINOR SURGERY AT THE NEW YORK POLYCLINIC DISPENSARY.



HOSPITAL CORPSMEN STRAPPING CHEST FOR FRACTURED RIB. ST. BARTHOLOMEW'S CLINIC, NEW YORK.



HOSPITAL CORPSMEN MOLDING PLASTER OF PARIS SPLINTS. ST. BARTHOLOMEW'S CLINIC, NEW YORK.



HOSPITAL CORPSMEN MAKING SOLUTION FOR CARREL-DAKIN TREATMENT, ST. BARTHOLOMEW'S CLINIC, NEW YORK.



PRACTICAL WORK FOR ADVANCED HOSPITAL CORPSMEN. BOARD OF HEALTH LABORATORIES, NEW YORK.



HOSPITAL CORPSMEN LEARNING TO ADJUST SPLINTS. WAR DEMONSTRATION HOSPITAL, ROCKEFELLER INSTITUTE, NEW YORK.



HOSPITAL CORPSMEN STUDYING OPERATING ROOM TECHNIQUE, NEW YORK.



HOSPITAL CORPSMAN MAKING DRESSING PADS AT THE WAR DEMONSTRATION HOSPITAL, ROCKEFELLER INSTITUTE, NEW YORK.



THE HOSPITAL CORPSMAN PREPARES SPECIAL TUBES FOR CARREL-DAKIN TREATMENT. WAR DEMONSTRATION HOSPITAL, ROCKEFELLER INSTITUTE, NEW YORK.



METHOD OF IMMOBILIZING FRACTURED LIMB: SOUND LEG SECURED BY EXCESS OF BANDAGE.



LITTER AT VERTICAL, HEAD OF PATIENT UP.



DRESSING STATION SEEN FROM THE REAR, EMERGENCY EXIT.



LOADED STRETCHER ON OPERATING TABLE IN PIT.



LOOKING ALONG THE ENTRANCE WHICH
BRANCHES OFF FROM THE COMMUNICATING
TRENCH.



ENTRANCE TO STATION FROM COMMUNICATING
TRENCH.



LOADED LITTER INVERTED: IMMOBILIZATION
MAINTAINED.



"RIGHT BY FILE" DOWN THE BEACH.

details and the actual work of that method of wound dressing, but the men are given an opportunity to learn the latest applied methods of light, heat, and ventilation in hospitals of the latest type.

In the operating room the men "stand by" at operations, assist in preparing patients for operations, assist in passing instruments, prepare and sterilize dressings, sterilize instruments, assist in dressing surgical cases, and, in fact, perform all work pertaining to an operating room. All the methods are, of course, the latest.

Laboratory work consists of blood counts, staining smears, cultures and their preparation, Wassermann blood tests, the Schick test for diphtheria, etc., all taught by expert bacteriologists.

In the dispensaries the men compound prescriptions, mix ointments, etc., and are taught all methods used by the registered pharmacist in his line of work. This gives the men enough experience to make them of great assistance in the dispensary on board ship.

General nursing is taught by registered nurses. With the advice of the nurses and the actual work in the wards the men are well prepared to do their share in the sick bay of their ship.

The following is what has been accomplished to date (May 8, 1918):

Course of training.	Number of men.	Days of instruction.
Corvet-Dakin.....	31	123 (3 still on duty).
Operating room.....	59	133 (4 still on duty).
Laboratory.....	27	101 (1 still on duty).
Dispensary.....	12	46.
General nursing.....	100	155 (16 still on duty).

The following extracts are from a report recently received:

Although the courses have been rather short, ranging, generally, from five days to one or two weeks, the instruction has been more or less individual, inasmuch as only a small group of hospital corpsmen are taught at one time. Of course, this permits of a better grasp of the work than if a larger class (which would mean the lack of individual attention) took the courses for a longer period of time.

In many instances the men have risen at 5 and 6 o'clock to be at their appointed institutions early. Of their own volition they have often stayed over and done night work. On one ship men who had not had leave for many months and were to have leave when they arrived in New York asked that instead they be permitted to take the intensive training course.

The hospital corpsmen of the cruiser and transport force have availed themselves of this opportunity to benefit themselves not only for advancement while in the Navy, but as a foundation for a medical career in civil life. They fully appreciate the patriotic efforts of the hospital authorities in their behalf. Numbers of the men, as shown by the extracts of reports received, have returned to the hospitals on Sundays and while on furloughs to keep on with their

work. All of this, together with reports received from the senior medical officers of ships having sent men for training, signify that not only are the medical officers highly satisfied with the results obtained, but the men themselves realize the excellent opportunity that has been opened to them.

On a recent visit with Dr. Young to the various institutions in which our men were in training the best reports were received. It was very gratifying to learn that no friction has ever existed between the hospital corpsmen and the hospital authorities. The superintendents of three hospitals asked, "When are we to get more men? We want them and we all like them. They are always willing to do what they are told, attentive to instructions, and courteous in manner." All expressed their desire to assist in any way possible.

From the highest to the lowest, all those who are helping the hospital corpsmen are doing their bit behind the lines. Thanks are due the charities commissioners of New York, the superintendents of hospitals at which our men have been stationed, the boards of directors, the surgeons and physicians, and others too numerous to mention, who have helped and are still helping the men and the cause.

Any hospital corpsman of the Navy who desires to advance himself in rating and be of more benefit to the service is urged to take advantage of this training whenever in New York. Further information can be obtained by communicating with the force medical officer, cruiser and transport force, New York City.

FIELD WORK WITH THE EIGHTH REGIMENT OF MARINES.¹

By G. A. GRAY, Assistant Surgeon, United States Navy.

Conditions around Galveston are not ideal as regards digging for depth, as the entire island is flat and sandy. The highest point, 11 feet above sea level, is at the fort, and this has been artificially elevated and surrounded by a wall. The average elevation over the rest of the island, and particularly at the site of our trenches, which is at a distance of about 3 miles from the fort, is about 6 to 7 feet.

As previously mentioned, the soil is sandy, and therefore easily excavated. This advantage is, however, offset by the tendency to cave in. Brush used in making the fascines and part of the revetment was very hard to obtain, the nearest available source being 1½ miles distant. At no time were there more than six hospital corpsmen and one medical officer detailed on the work. They completed

¹ Extract from report to the Surgeon General, United States Navy, February, 1918.

the construction in six days, devoting six hours of actual labor per day to the task.

In constructing our dugout dressing station it was necessary, therefore, to modify the usual rules of construction according to the conditions present. Nevertheless we endeavored to keep in mind the suggestions offered in the outline, "The Training of Field Medical Units for the New Armies," issued through the Marine Corps headquarters, and in "Trench Warfare," by Maj. James A. Moss, United States Army.

QUANTICO AND GUANTANAMO.

HEADQUARTERS THIRD PROV. BRIGADE, U. S. MARINES,
Guantanamo Bay, Cuba, March 27, 1918.

The Editor of the Supplement.

DEAR DOCTOR: The following are a few notes made by me in connection with the training of the Hospital Corps of the Seventh Regiment, to which I have until recently been attached. I feel that some of the notes will at least prove interesting, if not instructive, to other members of the Hospital Corps who are destined for duty in tropical climates. It is hoped that this article may appear on the pages of the SUPPLEMENT, of which I am an interested reader.

In order to show the successful work done by this detachment I will describe briefly their training before joining this regiment. While attached to the marine training camp at Quantico, Va., a large number of newly enlisted hospital corpsmen were sent there for training for purely field duties with marines. When these men reported they were outfitted in marine khaki instead of Navy clothing. This at first caused quite a bit of disappointment, because they all had pictures of themselves, in the mind's eye, as real sailors. This disappointment, however, soon wore off and their training started in with a vengeance.

They were first instructed in military bearing and given ordinary drills in addition to the physical drill. These drills soon took the typical "hands-in-pockets" slouch out of them, and then they were ready for something better.

Their professional training began at this time (about two weeks after arrival), and consisted, first, of the litter drills in addition to "transportation of wounded without a litter," both with one and two bearers. A good deal of interest was stimulated in the latter, as it has a tendency to show physical power, and this was encouraged as much as possible until the finer points were mastered, and it was then that all realized that it was not so much strength as the proper

method of holding the person to be transported that counted. These periods took the better part of two hours each morning.

At sick call each morning a detail of 20 men were lined up in the fly of the sick-bay tent to witness how sick call was carried on and how treatments were given. The rest of the men were taken around the camp on a sanitary inspection and were ordered to take notes on conditions that should be remedied, and upon their return to the sick bay these reports were criticized. The rest of the day was spent—in one morning and three afternoon classes—on the subjects embraced in the Handy Book for the Hospital Corps. Instruction was also given on the contents of the Hospital Corps pouches and their uses.

During the months from May to August Quantico was an ideal place for the training of hospital corpsmen in the sanitary care of a camp. These instructions were right-hand information, in view of the fact that there were daily talks and demonstrations by Dr. Carter, of the Public Health Service, who was at that time making a mosquito survey of the swamps in the vicinity of the training camp. Later these men were taken out daily by an assistant surgeon to oil different parts of these swamps and small streams in an endeavor to prevent mosquito breeding in the vicinity. These instructions were of great value to this detachment upon their arrival in Cuba.

Upon our arrival at Guantanamo Bay, where the regiment went into camp at Deer Point, six hospital corpsmen were detailed for a period of two weeks each at the naval dispensary, where they received further valuable training in ward, dispensary, and operating-room duties. The final tests for these men came when the regiment was ordered into Cuban territory proper, where five posts were established. At each of these posts were detailed an assistant surgeon and a proportionate number of hospital corpsmen.

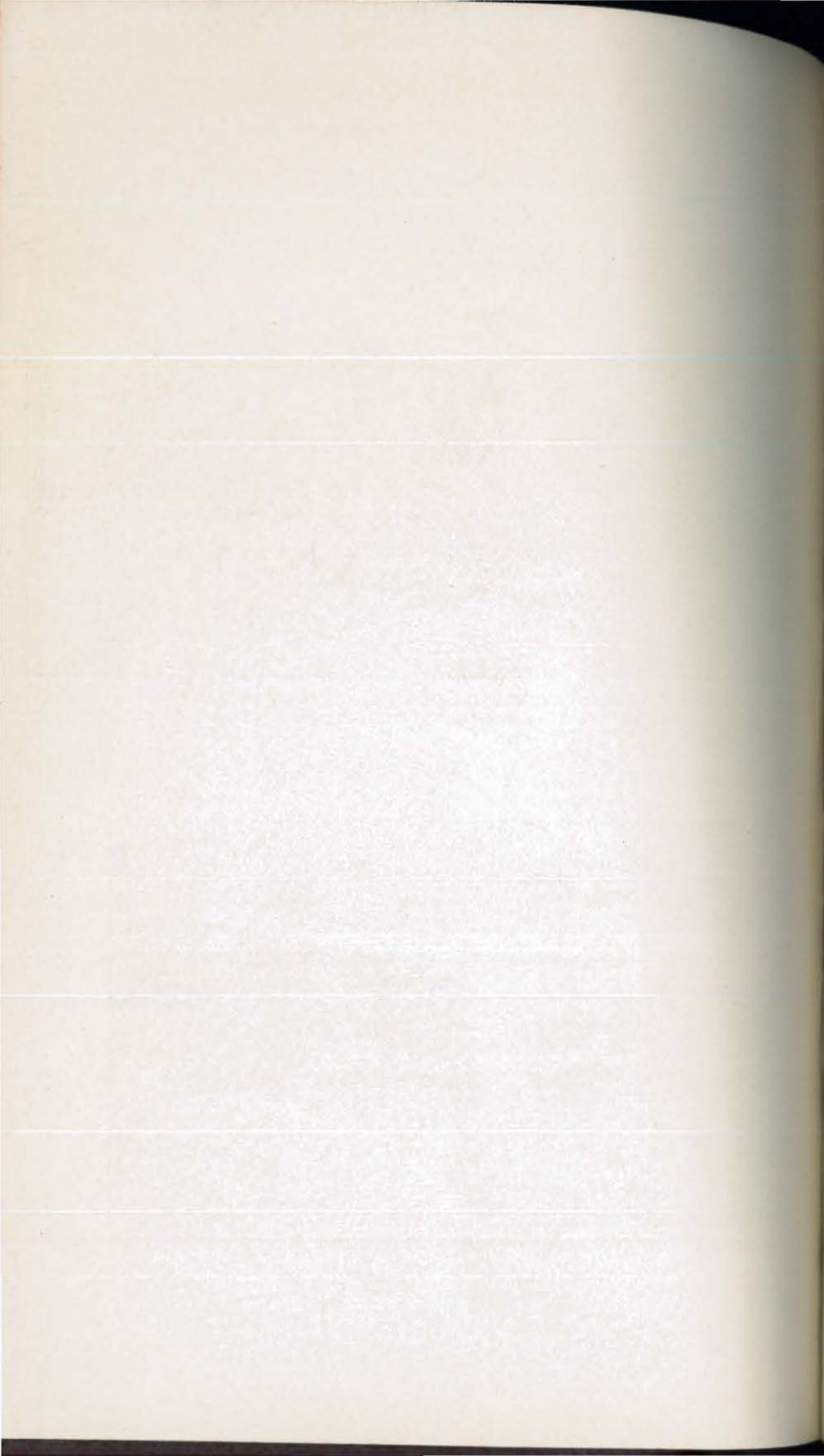
To this detachment in October were added two pharmacist's mates, first class, and one pharmacist's mate, second class, who were the only experienced men in the regiment. They were a valuable asset to the regiment for detached duty. A post, with two companies of Marines, was established at Camaguey, Cuba, where in a very short time the camp was cleaned up to such an extent that not a single case of malaria has developed at that post. Another two-company camp was established at San Luis. The cleaning-up work is now going on at this post. The headquarters of the Seventh Regiment, consisting of headquarter's detachment, one machine-gun company, one mounted company, and two Infantry companies, are in camp on San Juan Hill, which is a short distance from Santiago. This place on our arrival was all overgrown with tropical vegetation and a dense growth of underbrush. The hill was first cleared of this underbrush, ditched, and drained where necessary. During the process



HOSPITAL CORPSMEN OF EIGHTH REGIMENT UNITED STATES MARINES WIN FROM HOSPITAL CORPSMEN OF COAST ARTILLERY IN COMPETITIVE FIRST-AID DRILL AT FORT CROCKETT, TEX., ON WASHINGTON'S BIRTHDAY.



HOSPITAL CORPS SERVING WITH MARINES PREPARING TO LEAVE FOR FRANCE.



of cutting the underbrush a great many men were incapacitated by coming in contact with poison gua. This brings up an important point as to instruction regarding poisonous tropical plants. It would be of great benefit if all hospital corpsmen who were destined for tropical duties ashore could be instructed as to the appearance and action of these plants, so that they in turn might assist in teaching the men with whom they are serving the appearances of these plants and the precautions necessary to prevent being poisoned by them.

The sick bay of the camp was established on a hill to the southwest of the main camp. Here the Hospital Corps put up a building, 60 feet long, 14 feet wide, and divided into dispensary, operating room, ward, dental office, and regimental surgeon's office. This building is completely screened. The lumber gave out before the building was completed, so tar paper was used to finish it. The entire building is whitewashed externally, including the roof. This is to reflect the sun's rays, thereby making a cooler building. There is fresh water piped near the dispensary, and a shower bath is nearby for the exclusive use of the medical department. The Hospital Corps and the medical officers attached to the post live in tents on the hill where the sick bay is located.

Hospital corpsmen are given practical instruction by sending them with companies on practice marches and other independent duties. Upon their return a detailed account of the trip must be turned in.

A hospital corpsman is kept on duty at the guard tent to give venereal prophylaxis. As long as any of the liberty party are out he can not leave until all men are checked in or accounted for. Each hospital corpsman takes his turn on this watch, which gives them all a chance to become familiar with the routine. These men have all been instructed how to properly give venereal prophylaxis. Since the education of the marines and the Hospital Corps along these lines venereal disease has decreased wonderfully.

It is suggested that the commanding officers of marine regiments be placed on mailing list for circular letters relating to the changes regarding the personnel of the Navy, including the hospital corpsmen. Without these circulars the hospital corpsmen in field do not have the same chances as their fellow corpsmen on board cruising ships or shore stations in the United States.

The only remaining suggestion to be made is that the regimental form box and the field desk issued to regiments, etc., have the following navigation forms added: Muster rolls, 4; report of vacancies, 6; requisition for blank forms, 2; and one copy of Bureau of Navigation's latest annual circular.

B. E. KIRWAN,

Chief Pharmacist's Mate, United States Navy.

ORAL HYGIENE.

By H. J. LEONARD, B. S., D. D. S.

WHAT IS ORAL HYGIENE?

Oral hygiene is that branch of the science of right living that relates to the mouth. It embraces the care from infancy to old age that should be given by the patient and the dentist to keep the mouth in health—that is, free from disease. It not only embraces the toilet of the mouth, but also takes in questions of diet which indirectly and directly affect the health of the mouth, questions of mechanical repair which may or may not create favorable hygienic conditions in the mouth, and questions of systemic disease causing or caused by disease in the mouth.

WHAT ARE THE COMMON DISEASES OF THE MOUTH WHICH ARE TO BE PREVENTED BY HYGIENE?

One of the common diseases of the mouth caused by unhygienic conditions is decay of the teeth, or dental caries, which leads to disease and death of the pulp or so-called nerve of the tooth, leading, in turn, to acute or chronic inflammation in the bone where the pulp emerges from the end of the root. Another disease caused by unhygienic conditions is inflammation of the gum edge, or gingivitis, which may lead to a separation of the surrounding tissue from the root, forming pockets. Such a condition is given the name *pyorrhea*, because pus flow from the gum edges frequently occurs when the inflammation has extended so deeply. The symptoms of either gingivitis or pyorrhea are soft, red or bluish, slightly swollen, shiny, sore, easily bleeding gums. Still another disease caused by unhygienic conditions—in this case usually mechanical—is movement of the teeth, either as a slow shifting from their proper positions and relations or as a forward and backward movement, causing in a single tooth a loosening of the tooth root and degeneration and final loss of its investing attachment.

WHAT ARE THE FACTORS WHICH CAUSE DENTAL CARIES?

One of the factors causing dental caries is an improper diet, in which concentrated, pasty food is eaten, leaving a paste around the teeth which ferments and gradually eats into the tooth by the acid formed. Foods containing finely ground wheat flour are especially injurious in this connection, and when eaten should always be followed by eating fresh fruit or brushing the teeth to leave them clean. Another factor is the lack of cleansing of the teeth. Most individuals living under the present unhygienic dietary system can only

prevent decay of the teeth by keeping them clean. When teeth are kept perfectly clean decay can not start. Irregularities in tooth formation and position and poor repair work often leave spots which can not be kept clean and lead to decay.

WHAT ARE THE FACTORS THAT CAUSE GINGIVITIS OR GUM INFLAMMATION?

Gingivitis is caused by bacteria on the surface of the teeth, which, being constantly in contact with the gum edge, finally break down its resistance, penetrate it, and cause inflammation. The bacteria are present on the teeth in large numbers, due probably to errors in diet, which allow the large intestine to become the seat of excessive bacterial action, called constipation, from whence the whole alimentary tract, including the mouth, becomes coated. The teeth in savage races, in which bulky, coarse food is eaten, are naturally clean without artificial cleansing. The fact that our food is so thoroughly cooked that chewing is unnecessary and that the gums get no stimulating friction makes the gum and surrounding tooth attachment unhealthy and of but little resistance against the penetration of bacteria. The fact that most people eat more than is necessary causes lime salts to be secreted in the saliva, and these deposits occur on the points where the saliva enters, on the inside of the lower front teeth and on the cheek side of the upper first molars. These lime deposits on the tooth surface against the gum contain bacteria and also aid in causing gingivitis. When gingivitis occurs, blood serum or lymph is exuded from the inner surface of the gum edge and lime salts deposit from it on the tooth surface beneath the gum edge.

These concretions also contain bacteria and cause the area of inflammation to extend farther down the root, with formation of pyorrhea pockets. Loosening of the tooth may come from this cause alone if it is far enough advanced, but it is usually caused by constant lateral movement of the tooth from some mechanical fault in the mouth.

WHAT ARE THE MECHANICAL FACTORS THAT CAUSE TOOTH MOVEMENT?

The slow shifting of teeth in adult life is in most cases due to the loss of one or more supporting teeth, the most common of which is the loss of a lower first molar, in which case the lower second and third molars tip forward and fail to support the jaws so that the bite closes. This forces the lower front teeth high up against the gums of the uppers, which are forced outward.

The teeth no longer articulate properly, and one or more are battered loose. One of the commonest causes of loosening of the back teeth is found where the outer cusps of the upper teeth extend down-

ward farther than the inner cusps. As the jaw is moved from side to side, such teeth are moved laterally back and forth in their sockets and are soon loosened. The condition is found in much improperly made crown and bridge work, and in cases of excessive wear, such as occurs from chewing tobacco. Inflammation about a tooth causes movement in the direction away from the inflammation.

HOW SHOULD CARIES BE TREATED?

Caries should be treated, in the first place, by removing the decay and properly preparing and filling the cavities. Next the patient should be thoroughly instructed in keeping the teeth clean by the artificial means of the mouth toilet, and, lastly, his diet should be studied and corrected to prevent fermentation on the teeth.

HOW SHOULD GINGIVITIS BE TREATED?

Gingivitis should first be treated by carefully scaling off all concretions of calculus on the tooth surfaces, both above and beneath the gum edge, and smoothing the crown and exposed root surfaces to the highest possible degree, to cut down the bacteria-holding capacity. The patient must then be thoroughly instructed in keeping the teeth clean and the gums in perfect health by the artificial means of the mouth toilet. Lastly, the diet should be studied and corrected to prevent lime-deposit formation and the bacterial masses in the mouth. Where a pocket extends to the end of the root the tooth should be extracted.

HOW SHOULD TOOTH MOVEMENT BE TREATED?

Where teeth are quite loose they should be immediately extracted. Where the loosening is not too pronounced and the cause can be discovered and corrected by grinding to make the articulation mechanically correct and to relieve lateral movement, this should be done. Where a slow shifting is occurring, due to loss of molar support, the support should be artificially supplied by prosthetic work.

WHAT IS THE TECHNIC OF CLEANING TEETH?

The first step is the removal of the soft deposits, stains, and salivary calculus concretions by means of steel scalers, the Darby Perry No. 9 and No. 11 being well adapted. Following this, the tooth surfaces beneath the gum edges must be tested and scaled free of any serumal calculus which may be present, the operator being sure that the root surface is left perfectly smooth as far down as the gum is detached or the pocket extends. This can be done by the Darby Perry No. 11 scaler and Hartzell planing instruments, if available, and finished by

Tompkins files Nos. 1, 2, 3, and 4. After this phase of the work is finished the teeth should be polished with a porte carrier and orange-wood points and very fine pumice for the buccal and lingual surfaces, and Cutter's wide dental tape with very fine pumice for the proximal surfaces. The tape should be carefully inserted between the teeth so as not to snap into the gum. By holding a short span very tightly it can be worked through the point of contact, after which it should be bent around one of the teeth and slipped as far beneath the gum edge as it will go. It is then sawed back and forth as it is being pulled away from the gum edge, and the process is repeated on the adjacent tooth surface. To test whether the teeth are clean and free from bacterial masses a staining solution (composed of 50 grains of iodine, 15 grains of zinc iodide, 15 grains of potassium iodide, 4 drams of glycerine, and 4 drams of water, mixed) may be swabbed on the tooth surfaces and washed off. Any soft deposit will remain stained brown and can be detected and cleaned off.

WHAT MUST THE PATIENT DO TO KEEP HIS TEETH CLEAN?

The patient should scrub his teeth and gums with a hard tooth-brush at least twice a day, spending time enough to get all surfaces of the teeth clean and strength enough to get the gums thoroughly massaged. At first the gums may be too tender to stand the hard brushing without developing canker sores, in which case the massage should be done with the finger or with a piece of cloth or cotton. After a few days the brushing should take up this work and the gums made so hard and dense that no amount of hard brushing can hurt them. To keep the tooth surfaces between the teeth clean the dental tape should be used once a day as described for the operator. Besides this mouth toilet the diet should be regulated so as to leave the mouth clean after eating, to prevent undue intestinal fermentation with bacterial masses in the mouth, so as to give the teeth and jaws sufficient exercise and stimulation.

WHAT IS HYGIENIC DIET?

Plenty of vegetables, raw and cooked; plenty of fruit, raw and cooked; coarse rather than fine white-flour breads; not much meat unless the work is very active and exposed to cold. The idea is to get plenty of bulk for the intestine to work on without getting more actual food than can be used up. The meal should be followed by acid fruit or the teeth should be brushed.

WHAT DISEASES OF THE MOUTH MAY BE MISTAKEN FOR PYORRHEA?

One of the most common diseases of the gums, outside of common gingivitis and pyorrhea, is ulcerative stomatitis, which usually starts

as a gray ulcerated gum edge between or around one or two teeth, spreading rapidly to others. It is extremely painful, causing much aching and soreness of the affected teeth, and soon eats away the gum edge, leaving the bone about the teeth bare. If unsuccessfully treated it may run a very severe course, causing much tissue loss in the mouth and even death of the patient. It is easily treated by a mouth wash composed of 1 part of one one-thousandth mercury bichloride or corrosive sublimate solution and 1 part of hydrogen peroxide mixed together. The mouth should be vigorously washed by holding the solution in the mouth and forcing it back and forth through the teeth for a minute four or five times a day for a week. Relief usually occurs in from three to six hours after the initial treatment.

Another gum disease which is frequently seen is mercurial stomatitis in cases where mercury is used as a medicine. In this affection the gums become red and painful and swell up around the teeth. The breath is foul and the teeth become loose and sore. It is treated by discontinuing the mercury if possible and by cleaning the teeth, including any root surfaces where pockets exist, and putting the patient on a vigorous routine of gum massage and tooth brushing. Mercury is well borne by healthy gums and by proper local measures it is possible to bring the gums to a state of health even without discontinuing the mercury.

WHAT SYSTEMIC DISEASE MAY FOLLOW UNHEALTHY MOUTH CONDITIONS?

The most common effect of an unhealthy mouth is bacteria in the blood stream coming from gingivitis or from abscesses at the ends of the roots. These abscesses may be acute, with swelling and pus formation, or blind, in which case the patient may be entirely unconscious that any trouble exists. The symptoms most commonly found as a result of gingivitis or blind abscesses are rheumatic pains in the joints or muscles, nervousness, and malaise or state of being tired much of the time. In more severe cases, arthritis or inflammation of the joints, heart disease, nephritis or kidney disease, stomach ulcer, and many other troubles may occur. Where these lesions exist much care must be exercised in treating the mouth conditions, for if too much mouth infection is stirred up at any one time the systemic lesion may be made very much worse. On the other hand, the systemic lesion may be greatly benefited by stirring up the mouth infection a little at a time at intervals of five days or more.

Neuralgia and many forms of nervous trouble frequently are caused by dental disease, but in this case the trouble is usually due to an unerupted tooth or abscess mechanically pressing on a nerve trunk and not to infectious poisoning.

CORRESPONDENCE COURSE FOR PHARMACISTS.

PROBLEM NO. 2.

A new naval hospital is to be constructed and you are requested to submit a sketch of a complete commissary building to serve as a guide for the preparation of plans.¹ The galley is to have capacity for the preparation of food for 1,000, the mess room or mess rooms (according to your plan) seating capacity for 500. You are going to use the cafeteria system for serving food. You will have steam, gas, and electricity available.

(a) Draw a rough sketch (floor plan only) of what you would consider an ideal arrangement under the above-described conditions.

(b) Give a list of the necessary equipment of stationary nature. This will include everything excepting mess gear and kitchen utensils (such as knives, forks, pots, pans, etc.).

ANSWER.

(a) In planning a commissary building, as asked in this problem, it is assumed that the building is to be complete in every respect for the purpose intended. This means that we have to provide store-rooms for our supplies, refrigerating facilities for our perishable provisions, a kitchen with the necessary adjuncts for the preparation of food, a serving station (since we are to use the cafeteria system), a dining room or rooms, a dish-washing department to clean and take care of our mess gear, and, finally, make some provision for the comfort of the employees of the commissary force.

The only guide furnished for our plans is the capacity of the dining room or rooms, which are to accommodate 500, and the capacity of the kitchen, which is to prepare food for 1,000. These facts have naturally a bearing on the whole program, as everything else must be in proportion. Since only floor plans are required we have nothing in the way of structural difficulties to consider.

¹The commissary building is to be a separate unit for commissary purposes only; a 1-story structure with basement. Do not consider any special diet kitchen equipment or the serving of any special diets from your galley. Your galley is providing for ambulance cases and hospital corpsmen only, besides your civilian help.

The certificate should appear only once, at the foot of the last page of answers. On address line at head of answer give your official address, not residence.

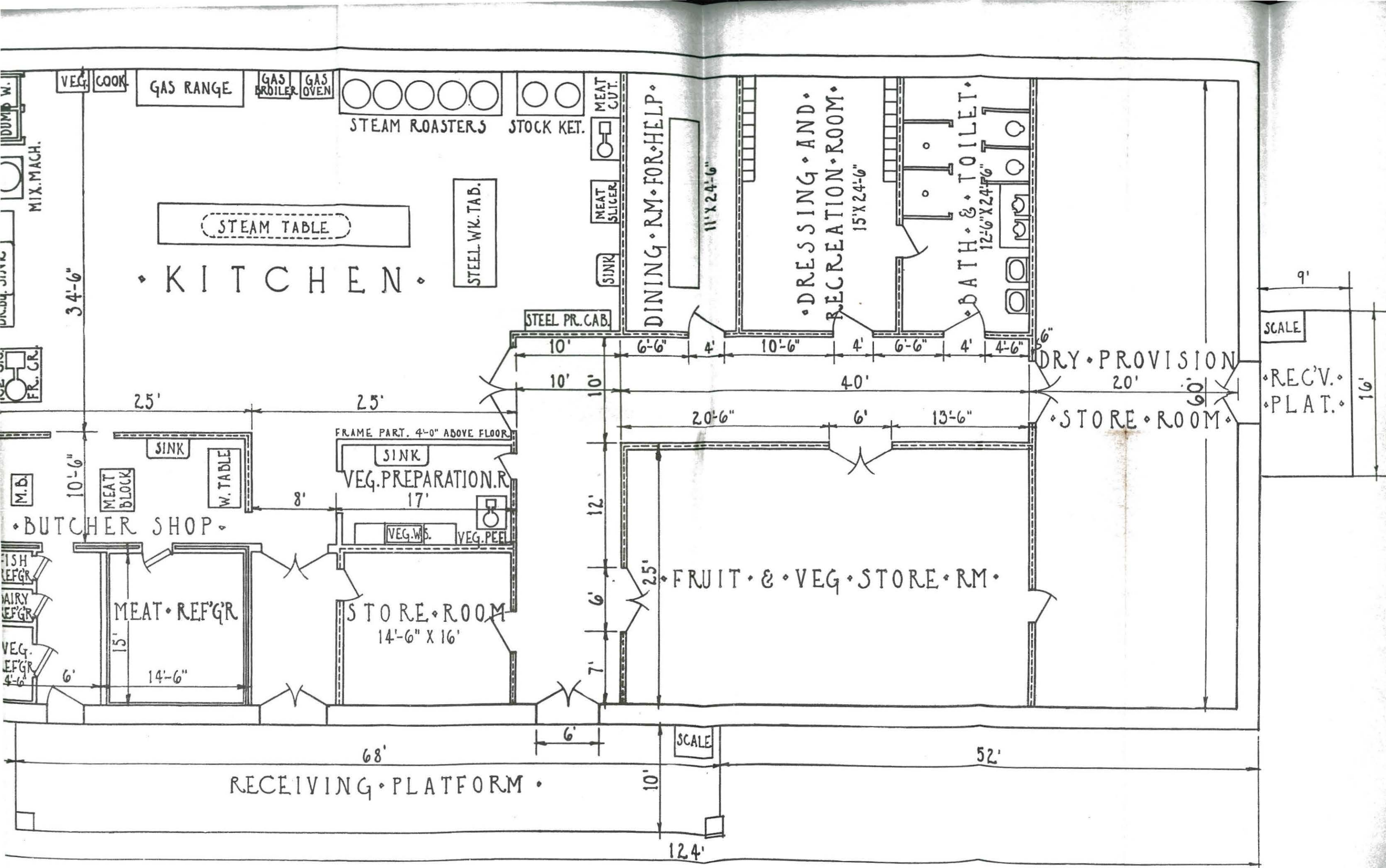
Only the more important features will be considered in this description, as the plans are to a great extent self-explanatory.

Sketch A shows the arrangement of the basement or first floor of the building. The provisions are delivered directly from the street level to the several storerooms and refrigerators. A butcher shop is located next to the meat refrigerator, a vegetable preparation room next to the butcher shop; both open into the kitchen. We have an issue storeroom from which the daily needs of the commissary department are supplied. The kitchen has all the apparatus grouped around the wall, giving ample space in the center for work. Two electric dumb-waiters connect the kitchen with the serving station on the upper floor. Besides the above we have also a dining room, dressing and recreation room, and toilet and bath room for the employees of the commissary force. Hours of these employees are usually long, with leisure periods between meals, and it seems only just that they should have some place where they can change their clothing and rest between periods of activity.

Sketch B shows the arrangement of the upper story of the building. There is a large inclosed heated porch, where the men can congregate prior to entering the dining room. On this floor we have the serving station, the dining room, and the dish-washing establishment. The food service from the kitchen to the serving station is accomplished by means of the two electric dumb-waiters and is simplified by interchangeable food dishes between the steam table and the serving table.

This serving table has a steam-heated inset for these dishes. The fully prepared food is placed in containers in the kitchen steam table first and from there, as required, transferred by the dumb-waiters to the serving table. Food which must be served hot is therefore left unheated only for the period of time required to transfer it from the kitchen to the serving station. One hallway, divided by a railing, serves as entrance and exit; the railing prevents crowding and confusion between those entering and leaving. On entering the man takes plate, knife and fork, and proceeds to the butter-serving machine, where he receives his portion of butter; then to the main serving table, where he receives the remainder of his food; and then to the table assigned him. After finishing the meal he takes all of the mess gear he has used and deposits it at the soiled dish counter. In this manner everyone becomes his own waiter and the force in the dining room is reduced to a minimum.

The cafeteria system is in the main a system where the individual, to a greater or lesser degree, according to its application, becomes his own servant. There are many methods of employing this system. One has the man use a tray on which he places all of the mess gear



[illegible]

♦ DINING ♦ ROOM ♦

• 36 • T A B L E S •
(L I N O L E U M C O V E R E D)

♦ S E A T I N G ♦ C A P ♦ 504 ♦

♦ M A I N ♦ F I O O R ♦ P I Δ N ♦

for his meal and procures the whole meal before proceeding to the dining table. It is considered here that this is not the best method for our needs, the objections being the necessity of employing trays which are hard to keep clean, the liability of trays being upset while being carried, and the difficulty in handling them in the dish-washing room when deposited with the soiled dishes. In the New York hospital the man takes plate, knife, and fork and receives at the serving table his butter and all other eatables except bread, coffee, tea, soup, and dessert, which, with bowls, cups, saucers, salt and pepper shakers, and spoons, are placed for him on the table. Leaving the table, however, he takes all of the mess gear he has used to the soiled dish table. This he can easily accomplish without a tray, as at the most the soiled mess gear will consist of bowl, plate, cup, saucer, knife, fork, and spoons.

In planning this building there have been constantly kept in mind concentration and coordination of the several departments to accomplish a saving of time, effort, and a reduction of the force necessary to operate the plant to a minimum. Quicker service could be secured by having two serving stations and two dish-washing rooms or by having the kitchen on the same floor with the dining room, but in the first case the time gained would be more than offset by the greater number of employees required and in the other case by the need of much greater floor space which such an arrangement would necessitate.

The idea of one dining room for all might create comment, and many will probably question the wisdom of having patients, hospital corpsmen, and civilian employees subsisted in one mess hall, but I believe that all objections are outweighed by the advantages one large mess hall offers over several dining rooms. As objectionable features of several dining rooms I will mention the difficulty of supervision and maintenance of discipline during meals, the necessity of more help for serving and cleaning purposes, the not easy adaptability of several dining rooms to the cafeteria system with a central serving station, and finally the factor of suspicion in the minds of the men, when separate dining rooms are employed, that some one is being favored. There is no difficulty in segregating people in one large dining room by assigning them to different tables, and the most potent objection, that of patients and well men using the same mess gear and the consequent danger of infection, is a thing of the past since the introduction of the electric sterilizing dish-washing machine.

The one exception to the messing of the enlisted personnel, aside from bed cases, in the one dining room should be the chief petty officers' mess of the hospital corps. For these it is considered that

provision should be made in the hospital building. It would appear more advantageous to have a few subsisted there than to cut into the dining-room space of the commissary building with a small dining room and to use a different system of service, since the cafeteria system would hardly seem appropriate for that mess.

No provision has been made for a bakery. With probably one exception, that of the hospital at Fort Lyon, all other hospitals buy their bread and bakery goods. It is questionable if it would be profitable to undertake baking in our hospitals on account of the heavy overhead charges for help and equipment.

The capacity of this building for the preparation of food and service can be increased greatly. When we speak of 1,000 kitchen capacity, preparation of food for 1,000 at one cooking is implied, and seating capacity of 500 means the accommodation of that many at one sitting. The capacity of the kitchen could be easily expanded to 2,000 without additional equipment, and the capacity of the dining room to the same number by serving meals in relays and arranging the cooking accordingly. It is believed that 500 could be fed every 40 minutes or 2,000 in 2 hours and 40 minutes. The time to clear and reset tables is included in this calculation.

The outlined plan does not lay claim to perfection; it is a general plan, which probably would undergo many modifications and changes of detail if actual construction of such a building was undertaken; but the main idea and the dimensions are such that it would safely accomplish the desired result in providing and serving food for the number estimated.

BASEMENT FLOOR.

Kitchen.—Two electric dumbwaiters, 2 sinks, 2 four-compartment vegetable cookers (steam), 1 four-oven gas range, 1 two-section gas broiler, 1 gas bake oven, 5 steam roasters, 2 sixty-gallon stock kettles, 1 electric meat and vegetable cutter, 1 electric meat slicer, 1 electric mixing machine, 1 electric ice-cream freezer and ice crusher, 1 steam and carving table, 1 hand vegetable cuber, 1 steel provision cabinet, 1 steel worktable, 3 utensil racks.

Butcher shop.—Two meat blocks, 1 sink, 1 worktable.

Refrigerators.—One meat refrigerator, 1 vegetable refrigerator, 1 dairy refrigerator, 1 fish box.

Vegetable preparation room.—One electric vegetable peeler, 1 electric vegetable washer, 1 sink, 1 table.

Storerooms.—Shelving, bins, tables, scales.

Dining room for commissary employees.—Dining table, chairs.

Dressing and recreation room.—Lockers, table, chairs.

Bath and toilet room.—Two showers, 2 wash bowls, 2 urinals, 2 toilets.

Serving station.—One plate warmer and mess gear table combined, 1 stand with butter-serving machine, 1 serving table, 1 set of coffee and tea urns, 1 sink, 1 bread cutting and stacking machine with table, 1 steel provision cabinet, 1 ice box, 1 table.

Dish-washing room.—One soiled dish table, 1 clean dish table, 1 electric dish-washing machine, dish closets, cleaning gear locker.

Dining room.—Thirty-six linoleum-covered tables, 3 by 12 feet, 72 benches.

PROBLEM NO. 3.¹

You are assigned as the commissary officer of a naval hospital going in commission. The galley and mess-hall equipment of stationary type (ranges, steam table, benches, tables, etc.) is furnished and in place. You have no mess gear and no kitchen cooking utensils (pots, pans, carving knives, etc.). You have no provisions. There is no force assembled to operate your department. You have two weeks in which to place your department in commission, and you will have to care for 500 patients, 100 hospital corps men, 50 nurses, and 25 civilian employees outside of your own commissary employees. The nurses have their own commissary department, but you supply the provisions. Your equipment is of the latest, and you are going to use the cafeteria system in your main dining room for patients, hospital corps men, and civilians. It is assumed that you can obtain everything you want in the way of help and other requirements without delay.

- (a) How would you proceed to get your department ready?
- (b) How would you obtain all of your supplies, giving sources and methods of obtaining them?
- (c) How would you organize your commissary force?
- (d) What books would you keep and what other clerical duties would devolve upon you?

ANSWER.

(a) In placing the commissary department of a naval hospital in commission our first thought should be to go at this work in an intelligent, systematic manner. Efficiency can be only obtained at the price of constant watchfulness, strict supervision, and coordinated effort, and little can be accomplished if the above are neglected, even with the best of equipment, in starting a new organization. To coordinate activities and to make an orderly start it is a good plan

¹ Articles required need not be enumerated except by class. Under commissary force state how many and in what ratings they would be employed. It is assumed, except for people to act in a supervisory capacity, you would employ civilians. In answering this question you can follow Question Paper No. 2, in which you have planned a commissary building and use that as a basis from which to start your organization.

to prepare a scheme of action in the form of a short synopsis, somewhat as follows:

1. Survey of hospital, with special reference to commissary work.
2. Assignment of enlisted personnel to duty.
3. Employment of civilian help and their preliminary training.
4. Procurement of supplies.
5. Organization of receipt and issue system.
6. Opening of clerical procedures.

The survey of the commissary facilities of the hospital is greatly simplified in this case, since we are able to start with a thorough knowledge of the main commissary establishment, having in paper No. 2 planned and partly equipped a commissary building. There remain, however, in the hospital compound kitchens for special purposes and other minor establishments devoted to commissary work, which, while principally concerning us only in the matter of supplies, are also in other ways dependent for their success upon our department.

Having familiarized ourselves with the situation, as described above, and having laid out a plan of action, we can now proceed with discussion of paragraph (b) of the problem.

(b) The supplies required for our purpose are divided into several classes. First of all, we should procure the necessary additional equipment. This would consist principally of kitchen utensils and mess gear, as enumerated in Bureau's circular letter No. 125935-1 of October 1, 1916, and obtainable on stub requisitions from the supply department. In the preparation of stubs for these articles the number of people to be subsisted and the nature of the articles must be our guide as to the amounts needed. Twenty-five per cent over the actual requirements in articles of breakable nature, such as chinaware, and a 10 per cent excess over actual needs in others would appear to present a safe margin. However, even a greater excess would not necessarily impute extravagance, as none of these articles can be said to deteriorate with age if properly cared for. Cleaning gear, garbage cans, cooks' aprons, caps, mess jackets for waiters, etc., are carried and obtained from the general hospital issue room on requests approved by the executive. While all nonexpendable articles are carried on the property cards of the hospital, it is a good plan to carry the commissary property in a separate storeroom, with a duplicate card index for the information of the commissary officer. A few minor articles may be required for such places as the special diet kitchens. There is, however, such an ample variety of kitchen utensils and mess gear on the above-mentioned list, procurable from the supply department, that it is rarely necessary to submit open-purchase requisitions.

Having completed the requirements for additional equipment the next consideration should be the procurement of provisions. These are obtained on requisitions prepared by the Bureau of Supplies and Accounts and on contracts and formal orders placed by that bureau, partly from the supply department, partly from contractors. The bulk of groceries is procured from the supply department on Form 30a. Some groceries are obtained from contractors direct, but these usually consist of special articles for hospital use. Meats, vegetables, and other perishable stores are procured from contractors as needed, on orders which, as a rule, have to be placed at least 48 hours in advance of delivery. The preparation of a bill of fare should precede our orders. Staple groceries should be ordered in sufficient quantities to last a month. It is a good scheme to prepare a requisition on the supply department once a month for groceries. Such a procedure saves time and labor and gives one a clear idea of periodical needs. In ordering fresh provisions, under the storage conditions outlined in paper No. 2, meats, eggs, butter, vegetables, and fruits could be ordered three times weekly. It is better to do this than to have small daily deliveries. However, daily deliveries must be made of milk and bread. In most of our hospitals the inspection of fresh provisions has been placed under the Department of Agriculture. This method has been found very satisfactory. If such is not the case and the inspection devolves upon the commissary officer he should make a study of the specifications as issued by the Bureau of Supplies and Accounts and follow them closely. The Navy specifications cover this field very thoroughly and should be adhered to and rigidly enforced. In places where inspectors are stationed it is customary to make out orders in triplicate—one for the contractor, one for the inspector, and one for the hospital files. In emergencies telephone orders can be placed, but they should be always confirmed by a written order. In this connection it may be well to say a word as to the care necessary in storing supplies of perishable nature. Cleanliness is the most important matter to be observed. Food attracts mice, rats, roaches, flies, and other insects, and storerooms should be kept clean and free from pests. Cleanliness is their greatest enemy, therefore storerooms and ice boxes should be kept scrupulously clean and well ventilated.

(c) The commissary force for our establishment would ordinarily consist of the following to care for the number of people we have to subsist:

Supervisory force: One chief pharmacist's mate, 1 pharmacist's mate, first class.

Kitchen: One head cook, 4 assistant cooks, 1 butcher, 2 kitchen men, 1 vegetable man.

Dining-room floor: Six mess attendants, 1 serving station man, 2 dishwashers.

Storerooms: Two storeroom keepers.

This force should be ample to handle the number of people to be subsisted, as stated in the problem, and even take care of a number up to 1,000. Over that number a slight increase in that force would be necessary. While the amount of this force has been based on previous experience, a good deal depends on the coordination of their work, on the effort of the individual, the working conditions, and the mechanical equipment.

To secure this force of civilian employees it would probably be necessary to advertise or to take recourse to employment agencies. Care should be exercised in selecting competent people, and their credentials should be carefully examined. The class of work which a man has done should come in for consideration. Institutional work differs greatly from work of similar nature in restaurants and hotels. Special attention should be paid to the selection of leading men for the several departments. A certain number of these men should report for duty in advance of the actual commissioning of the place, to familiarize themselves with the equipment and intended routine, and all would have to report at least three days in advance to get everything in readiness; but, of course, all this would depend greatly on the manner in which the man in charge would proceed with the execution of details of the whole plan.

The duties of the enlisted and civilian force are indicated to a great extent by their occupational calling, but a short résumé of their duties may be helpful and instructive.

SUPERVISORY FORCE.

Chief pharmacist's mate: General supervision under commissary officer; clerical duties. Pharmacist's mate, first class: Assistant to above.

CIVILIAN COMMISSARY FORCE.

Head cook: Responsible for kitchen and preparation of food.

Assistant cooks (4): Assistants to head cook. Three of these detailed to serving station at meal times.

Butcher: Care of butcher shop. Preparation of meats for kitchens.

Vegetable man: Care of vegetable preparation room. Preparation of vegetables and fruits.

Kitchen men (2): General work around kitchen; cleaning, washing of utensils, etc. Care of ice boxes.

Storeroom keepers: Receipt and issue of stores. Care of storerooms.

Mess attendants (6): Care and cleanliness of dining room. Service during meals. One for chief pharmacist's mate dining room.

Serving station man: Care of serving station. In charge of food service during meals.

Dishwashers (2): Care of dish-washing room and washing of mess gear.

Besides the above work a general cleaning detail of mess attendants and men in the lower ratings to take care of the several rooms designated for the commissary force and immediate vicinity of the building is required and must be arranged with due regard for their other duties. The working routine should be carefully studied and changed as conditions demand. It is not to be expected that everything will run smoothly from the start. No matter how carefully plans are laid, it will be found that adjustments have to be made from time to time to meet changing conditions, that the help will have to be shifted to make the best use of some men who show special aptitude for certain work.

In this connection it may be well to make a few remarks about the service required at mealtimes. To get the best results from the cafeteria system the help must be trained to work quickly and smoothly. With the number of patients and hospital corpsmen to be subsisted, it is necessary to make arrangement for early messes for men on watch and for segregation of the personnel and patients in different messes. This can be accomplished easily by assigning them to different tables which can be conspicuously numbered.

(d) The principal clerical duties connected with the commissary department consist of such as required in the obtaining of supplies and which have been explained under (b) and in keeping record of receipts and issues. The record of supplies is maintained through the daily receipt and expenditure voucher and the commissary ledger. The ration memoranda (M. and S. Form 124716) furnish daily information as to changes in the personnel in so far as they affect the commissary department and enable us to keep an accurate check on the quantities of provisions required from day to day and in conjunction with the ledger as to the cost of the ration. Detailed instructions regarding these forms are part of the Manual for the Medical Department, paragraphs 1411 to 1415, inclusive, and should be carefully studied and followed. Public bills for commissary supplies are another important feature of the clerical work, as the commissary officer is responsible for their correctness to the commanding officer. Besides the above there are unofficial forms which the ingenuity of the officer in charge must supply to meet local conditions, such as order blanks for contractors and such forms as are required by the receipt and issue of stores, working details, etc., forms outside of those official and mentioned above.

PROMOTIONS.

1. The Bureau of Navigation's Annual Circular, 1918, and amendments thereto, have given commanding officers wide discretionary powers in regard to the advancement of enlisted men to petty officer and chief petty officer ratings, time limits on promotion and sea service requirements being waived, except that six months' service in an acting chief petty officer rating is still required prior to issuing of a permanent appointment. While these radical changes in determining eligibility for advancement in the enlisted personnel have been going on, the Bureau of Medicine and Surgery has in no way changed its standard for the examination of hospital corpsmen for advancement in rating as shown in Bureau of Navigation's Annual Circular, 1918, and in chapter 4 of the Manual of the Medical Department. "The Bureau of Medicine and Surgery considers that a hospital corpsman should be recommended for advancement in rating only when through experience as well as by study and practical demonstration he has shown himself competent to successfully hold the rating next above the one in which he is serving. The Bureau considers that only exceptional men can acquire the needed variety of experience in so short a period as three months and then only if there has been exceptional opportunity for such experience. The Bureau considers that six months is none too long a time for the average man to gain the variety of experience necessary for him to qualify for advancement in a Hospital Corps rating, and especially desires that hospital corpsmen be not recommended for advancement more rapidly than one rating at a time." There are many vacancies in the pharmacist's mate, first class, and chief pharmacist's mate ratings, so that adequate promotion for hospital corpsmen is practically assured to the man who continues to study, to work, to learn, and to gain the experience which is so necessary to qualify him for advancement to an upper rating of the Hospital Corps. Since the last issue of the SUPPLEMENT the Bureau of Medicine and Surgery has received information that the following men have been promoted:

CHIEF PHARMACIST'S MATES THAT HAVE RECEIVED THEIR RATES.

Albright, M.
Averitt, J. T.
Barr, R. F.
Bessent, C. B.
Blumenschein, H.
Boyle, J. A.
Brauer, E. C.
Brouse, G. E.
Cameron, J. J.
Carlsen, F. H.
Delling, Fred.
Dickinson, W. H.

Dolcater, J. H.
Donald, James.
Donaldson, W. H.
Elde, E. S.
Ericson, H. W.
Faigelman, P.
Feck, G. M.
Ferguson, C. W.
Fiehland, P. H. E.
Foote, E. L.
Gellate, A. C.
Gemme, H. F.

George, H. F.
 Gillis, A.
 Gough, J. S.
 Hammer, S. Q.
 Hanks, M. L.
 Harrington, H. D.
 Harper, W. A.
 Herman, H. E.
 Holcomb, W. C.
 Hostetter, A. E.
 Jackson, J. A.
 Janda, E. C.
 Kolb, E. V.
 Lemon, A.
 Loegel, P. J.
 Long, G. M.
 Lyerly, F. G.
 McCleary, C. B.
 Miller, A. L.
 Milleron, E. O.
 Mock, J. L.
 Myers, W. W.
 Neuffer, L. W.
 Orr, A. V.
 Pace, Noah.

Ragan, W. E.
 Rasmussen, A. E.
 Reed, W. J.
 Rogers, R. C.
 Scheer, J. W.
 Scholle, A. G.
 Selden, C. B.
 Skillman, H. W.
 Smith, John Betty.
 Smith, J. H.
 Smith, Wm. Briggs.
 Stoner, W. M.
 Templin, C. W.
 Titzel, L. B.
 Toben, J. A.
 Toomey, A. R.
 Wallace, J.
 Wester, R. E.
 Whitney, W. L.
 Wilde, E. C.
 Wilkey, E. P.
 Williams, L. E.
 Wilson, Guy.
 Wolford, H. W.
 Woodward, W. H.

PHARMACIST'S MATES, FIRST CLASS, THAT HAVE RECEIVED THEIR RATES.

Albright, M.
 Alden, George L.
 Allton, Clarence N.
 Altman, Herman E.
 Andrews, Wilber G.
 Andrus, J. A.
 Anglim, R. E.
 Atwood, C. L.
 Barrett, Otto C.
 Barrington, W. M.
 Barrington, W. E.
 Bartlett, L. E.
 Barton, R. C.
 Beaulac, Earl C.
 Beebe, DeL. A.
 Benjamin, E. L.
 Bird, F. M.
 Black, Herbert.
 Bruner, C. C.
 Buchanan, George A.
 Call, I. B.
 Campbell, Neal.
 Carlsen, F. H.
 Cason, W. M.
 Cassel, J. V.
 Chamberlain, T. T.

Charbonneau, Fred.
 Chevalier, J. L.
 Conklin, Joe R.
 Cook, Jim F.
 Cook, S. F.
 Cooper, H. E.
 Coulter, J. R.
 Crowell, Harry V. R.
 Cunningham, Joseph L.
 Dacus, C. C.
 Davis, J. T.
 De Garis, J. A.
 Dellinger, H. H.
 Doyle, L. A.
 Du Frane, Eugene W.
 Dunlap, B. C.
 Evans, E. E.
 Ferguson, F. R.
 Fridge, C. F.
 Fouch, D. W.
 Fox, T. P.
 Furr, William P.
 Gardner, Ernest T.
 Gault, W. A.
 Glawson, J. J.
 Glick, B.

Goldstucker, Henry M.
 Gore, H. C.
 Goulding, James L.
 Grater, H. B.
 Grimes, Will.
 Gullufsen, G.
 Hancock, J. C. J.
 Hargrave, V. J.
 Harris, W. M.
 Hathaway, J. A.
 Henderson, J. V.
 Herman, Milton.
 Hodges, J. R.
 Homan, C. W.
 Huguenin, E. D.
 Huntington, A. P.
 Hurd, Paul L.
 Jacobs, D. A.
 Jamieson, R. H.
 Johnson, C. S.
 Johnson, Thomas C.
 Kezer, Charles H.
 Kinman, J. D.
 Krone, D. N.
 Lahmeyer, N. H.
 Lanham, J. S.
 Laymon, Wm. A.
 Le Bas, H. E.
 Lemon, A.
 Lewin, Eugene M.
 Lockhart, P. O'Neill.
 Louis, J. R.
 McGillis, J. R.
 McIntee, W. H.
 McLean, W. G.
 McNeel, H. McG.
 MacIninch, C. B.
 Mahoney, C. O.
 Martin, R. E.
 Mason, A. S.
 Medkirk, Forest F.
 Meyer, J. F.
 Miller, S. P.
 Milliron, E. O.
 Mobley, K. P.
 Mock, James L.
 Moody, J. A.
 Moore, E. M.
 Moore, E. S.
 Mortiz, W. E.
 Mullins, Martin.
 Murphy, R. R.
 Neuffer, L. W.
 Niccoll, J. S.

Norman, Harold McK.
 Orr, Arthur V.
 Oven, John H.
 Pace, Noah.
 Perry, William E.
 Peters, H. A.
 Philpin, John.
 Powell, Dunning.
 Powers, J. H.
 Piersol, H. W.
 Quick, F. C.
 Ramsey, J. R.
 Rayner, W. H.
 Rehback, E. A.
 Rice, B. T.
 Robinson, G. P.
 Ropes, Newell.
 Rush, John J.
 Sanford, C. W.
 Schmul, O. A.
 Senter, P. V.
 Simmer, Tony.
 Slack, Gussie J.
 Smith, J. E.
 Smith, John Betty.
 Stahl, Wilbur.
 Stamler, D. A.
 Stansbury, H. M.
 Stewart, J. P.
 Stewart, O. M.
 Stine, W. A.
 Suanson, Ralph C.
 Taft, S. C.
 Thompson, R.
 Trojakowski, W.
 Trotten, Harry N.
 Turney, H. L.
 Udasco, L.
 Vance, J. L. R.
 Van Gaasbeek, W. H.
 Walker, C. E.
 Wallace, R. N.
 Walton, O. M.
 Warren, J. M.
 Waters, R. A.
 Wenkheimer, Karl L.
 Whitehead, M. J.
 Wills, O. L.
 Wiseman, F. D.
 Wilson, G. H.
 Woodson, M. S.
 Young, B. P.
 Zinker, M. A.

The following men have been recommended by the board by which they were examined, but as yet the Bureau of Medicine and Surgery has received no information of their actual promotion:

TO CHIEF PHARMACIST'S MATE.

Bogart, D.
 Boner, T. J.
 Brisson, A. F.
 Brown, Michael.
 Brown, W. T.
 Campbell, J. R.
 Chamberlain, T. T.
 Clark, C. P.
 Clymer, R. E.
 Cochrane, R. S.
 Cuson, Clyde V.
 Davis, G. T.
 Dean, W. R.
 Dennis, H. J.
 Dent, M. E.
 Dettmer, Paul.
 Dossin, C. A.
 Dunlap, B. C.
 Flash, T. F.
 Francis, S. B.
 Fream, W. R.
 Fox, T. P.
 Gannon, J. J.
 Hayden, W. H.
 Henry, M. L.
 Herndon, J. A.
 Hollva, W. S.
 Jacobsen, A. P.
 James, R. W.
 Jarvis, H. W.

Jeffries, W. B.
 Johnson, C. F.
 Kraft, F. H.
 Lawrence, G. M.
 Lemke, G. F. W.
 Meese, C. E.
 Moody, J. A.
 Newland, V. E.
 Nichols, F. C.
 Olinger, J. B.
 Osborn, L. H.
 Piland, E.
 Poe, F. C.
 Point, L. J.
 Robbins, M. W.
 Rickard, G. F.
 Schlosser, R. B.
 Schulze, F. H.
 Smith, H. J.
 Sperling, N. W.
 Stanley, A. E.
 Stevens, W. N.
 Stommel, C. J.
 Summers, R.
 Tausic, T.
 Walker, H. C.
 Watson, C. A.
 Willoughby, L. B.
 Young, A.
 Yates, C. L.

TO PHARMACIST'S MATE, FIRST CLASS.

Anderson, C. S.
 Barnett, D. A.
 Baird, M. K.
 Beach, W. R.
 Bennett, T. J.
 Brinkman, A. J.
 Caiger, A. E.
 Carlson, F. J.
 Chapman, G. McK.
 Clark, T. H.
 Cohrs, H. J.
 Cowin, R.
 Crable, S. B.
 Crawford, W. E.
 Dorenborn, J.

Friedman, H.
 Garber, D. W.
 Gross, H. A.
 Gwymn, A. S.
 Hickley, F. E.
 Hill, Frederick.
 Hill, James A.
 Holton, C. O.
 Horning, B.
 Hutchins, C. L.
 Huntsinger, F. O.
 Jackson, P. L.
 Jamison, R. R.
 Kirby, R. H.
 Laney, A. D.

LaPlant, William.
Latta, E. C.
Lawrence, J. A.
McClendon, S. J.
McCoy, C. L.
Masterson, D. P.
Mattingly, C.
Mentzel, E. H.
Mitchell, C. M.
Nichols, F. C.
Peterson, R. E.
Purkerson, C. N.
Roberts, H. C.
Roberts, James C.
Rollins, R. H.
Ross, J. L.
Rotchford, F. H.

Routh, J. S.
Sagely, G. R.
Saunders, T. McL.
Schlosser, R. B.
Schulze, F. H.
Simmers, G. R.
Smith, William Briggs.
Smith, T. R.
Steele, L. A.
Stedge, R. R.
Stonerrock, E. H.
Tracy, L. B.
Troy, J. J.
Weiss, P. F.
Willoughby, L. B.
Wolford, H. W.

HOSPITAL CORPSMEN COMMENDED.

The Hospital Corps of the Navy is doing its part in the war as the following shows:

RESCUED A COMRADE.

Pharmacist's Mate Tony Simmer, Riverside, N. C., plunged into the same maelstrom of death to rescue a comrade whose leg had been torn off by a shell. Simmer was knocked down twice by concussion of shells and his helmet was struck in three places by shrapnel. He persisted in dragging back his comrade, whose life he saved.—Washington Star, June 5, 1918. (Tony Simmer, pharmacist's mate, first class, was enlisted in the Hospital Corps of the Navy on board the U. S. S. *Wyoming* Dec. 10, 1915.)

THREE MEN WITH MARINE CORPS AND TWO UNITED STATES INFANTRYMEN HONORED FOR GREAT BRAVERY.

[With the American Army in France, Tuesday, May 28 (By the Associated Press.)]

Three men attached to the American Marine Corps and two American infantrymen have been awarded the distinguished service cross for conspicuous heroism in action. Two of the crosses will be delivered to the next of kin because the men upon whom they were conferred lost their lives.

Pharmacist Fred C. Schaffner, United States Navy, serving with the marines, during an engagement on the west side of the St. Mihiel salient, southeast of Verdun, died as a result of his heroism. The cross was awarded him for "the highly commendable action he displayed in the care and attention incident to the removal of more than 100 casualties following a gas-shell bombardment April 13," says the citation, which adds: "He worked incessantly for the comfort and welfare of the sick, disregarding his own premonitory symptoms, insisting that he was all right when the contrary was evident. He had to be relieved against his will and as a result of the gassing died."

The citation and award to Hospital Apprentice Carl O. Kingsbury, United States Navy, are presented for work identical to that done by Schaffner, Kingsbury, however, did not lose his life.—Washington Times, May 29, 1918. (Fred C. Schaffner, pharmacist's mate, third class, was enlisted in the Hospital Corps at Des Moines, Iowa, Apr. 14, 1917. Carl O. Kingsbury, hospital apprentice, first class, was enlisted in the Navy at Port Royal, S. C., June 23, 1917.)

CONTRIBUTIONS.

Save your copy of the SUPPLEMENT and use it for reference. All information contained in its pages may not be of immediate value but may be just what you need at a later time. Each number contains information not found in the "Handy Book."

The contribution desired are articles dealing with measures and methods of treating the sick and injured, teaching and training, special duties, suggestions for improvement in any line of Hospital Corps work; pictures illustrating Hospital Corps activities; the corps on detached duty, on foreign stations, at training schools, landing parties, transportation of sick and injured, surgical X-ray and laboratory procedure, tropical duties, war pictures illustrating the work of the Hospital Corps; in short, any pictures which will be of interest and instruction to the corps.

The Editor has been gratified by the interest already taken by hospital corpsmen and others who have submitted articles and pictures for publication in the SUPPLEMENT. It is hoped that the interest will continue and that the hospital corpsmen, doctors, nurses, dental officers, will all remember that they can talk to one another in the pages of this publication in a way which will be of benefit to all.

Several contributions have been received which because of limited space could not be published in this number.

The SUPPLEMENT will publish only material that is of special interest and benefit to the Hospital Corps, the Editor reserving the right to turn over to other Navy magazines or papers material which is of interest to the Navy at large rather than to the Hospital Corps in particular. Owing to the uncertainty of mail transmission the editor does not assume responsibility for the return of pictures, articles, etc., contributed.

Endeavor will be made to answer through these columns any inquiries submitted by hospital corpsmen that are of general interest to the corps. Strictly personal inquiries will not be answered. Unsigned letters will not be considered.

Papers submitted should be typewritten. Use double spacing and leave wide margins.

Address all communications to:

EDITOR OF THE SUPPLEMENT,
Bureau of Medicine and Surgery,
Navy Department,
Washington, D. C.

CONTRIBUTORS

Each copy of the *Proceedings* will be sent to the contributor. All contributions should be in the form of a paper, not in the form of a book, and should be sent to the Secretary of the Association, not later than the 1st of January.

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Office of the Secretary
 Bureau of Medicine and Surgery
 New Department
 Washington, D. C.